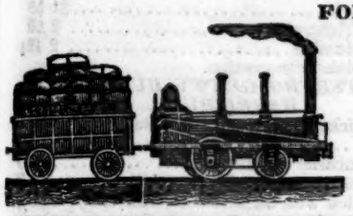
Cuyahoga Steam Furnace

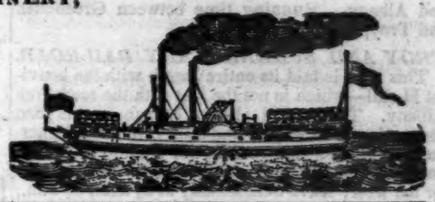
AMERICAN RAILROAD JOURNAL,

AND GENERAL ADVERTISER

FOR RAILROADS, CANALS, STEAMBOATS, MACHINERY, AND MINES.



ESTABLISHED 1831.



PUBLISHED WEEKLY, AT No. 23 CHAMBERS STREET, NEW YORK, AT FIVE DOLLARS PER ANNUM.

SECOND QUARTO SERIES, VOL. II., No. 36.] SATURDAY, SEPTEMBER 5, 1846. [WHOLE No. 533, VOL. XIX.

BOSTON AND PROVIDENCE RAILroad. Passenger Notice. Summer Arrangement. On and after Monday, April 6, 1846, the Passenger Trains will run as follows:

For New York—Night Line, via Stonington. Leaves Boston every day, but Sunday, at 5 p.m.

Accommodation Trains, leave Boston at 7½ a.m. and 4 p.m., and Providence at 8 a.m. and 4½ p.m.

Dedham trains, leave Boston at 8 a.m. 12½ m., 3½ p.m., and 6½ p.m. Leave Dedham at 7 a.m. and 9½ a.m. and 2½ and 5½ p.m.

Stoughton trains, leave Boston at 11½ a.m. and 5½ p.m. Leave Stoughton at 7·20 a.m. and 3½ p.m.

All baggage at the risk of the owners thereof.

31 1y W. RAYMOND LEE, *Sup't.*

BRANCH RAILROAD and STAGES CONnecting with the Boston and Providence Railroad.

Stages connect with the Accommodation trains at the Foxboro' Station, to and from Woonsocket. At the Seekonk Station, to and from Lonsdale, R. I. via Pawtucket. At the Sharon Station, to and from Walpole, Mass. And at Dedham Village Station, to and from Medford, via Medway, Mass. At Providence, to and from Bristol, via Warren, R. I.—Taunton, New Bedford and Fall River cars run in connection with the accommodation trains.

NORWICH AND WORCESTER RAILRoad. Summer Arrangement, commencing Monday, April 6, 1846.

Accommodation Trains, daily, except Sunday. Leave Norwich, at 6 a.m., and 4½ p.m. Leave Worcester, at 10 a.m., and 4½ p.m.

☞ The morning Accommodation Trains from Norwich, and from Worcester, connect with the trains of the Boston, and Worcester and Western railroads each way.

The Evening Accommodation Train from Worcester connects with the 1½ p.m. train from Boston.

New York Train via Long Island Railroad: Leave Allyn's Point for Boston, about 1 p.m., daily, except Sunday.

Leave Worcester for New York, about 10 a.m., stopping at Webster, Danielsonville, and Norwich.

New York Train via Steamboat—Leave Norwich for Boston, every morning, except Monday, on the arrival of the stamboat from New York, stopping at Norwich and Danielsonville.

Leave Worcester for New York, upon the arrival of the train from Boston, at about 4½ p.m., daily, except Sunday, stopping at Webster, Danielsonville and Norwich.

Freight Trains daily each way, except Sunday.—Special contracts will be made for cargoes, or large quanties of freight, on application to the superintendent.

☞ *Fares are Less when paid for Tickets than when paid in the Cars.* ☜

32 1y J W. STOWELL, Sup't.

BOSTON AND MAINE RAILROAD. Upper Route, Boston to Portland via, Reading, Andover, Haverhill, Exeter, Dover, Great Falls, South & North Berwick, Wells, Kennebunk and Saco.

Summer Arrangement, 1846.

On and after April 13, 1846, Passenger Trains will leave daily, (Sundays excepted,) as follows:

Boston for Portland at 7½ a.m. and 2½ p.m.

Boston for Great Falls at 7½ a.m., 2½ and 4½ p.m.

Boston for Haverhill at 7½ and 11½ a.m., 2½, 4½ and 6 p.m.

Boston for Reading at 7½, 9, and 11½ a.m., 2½, 4½, 6 and 8 p.m.

Portland for Boston at 7½ a.m., and 3 p.m.

Great Falls for Boston at 6½ and 9½ a.m., and 4½ p.m.

Haverhill for Boston at 6½, 8½, and 11 a.m., and 4 and 6½ p.m.

Reading for Boston at 6½, 7½ and 9½ a.m., 12 m., 1½, 5 and 7½ p.m.

The Depot in Boston is on Haymarket Square.

Passengers are not allowed to carry Baggage above $50 in value, and that *personal* Baggage, unless notice is given, and an extra amount paid, at the rate of the price of a Ticket for every $500 additional value.

CHAS. MINOT, *Sup't.*

NEW YORK & HARLEM RAILROAD CO.—Summer Arrangement.

On and after Friday, May 1st, 1846, the cars will run as follows:

Leave City Hall for Yorkville, Harlem and Morrianna, at 7, 8, 9, 10 and 11 a. m., and at 1, 2, 3 30, 4 30, 5, 6, and 6 30 p. m.

Leave City Hall for Fordham and Williams' Bridge, at 7, 10 and 11 a. m., and at 2, 3 30, 5, and 6 30 p. m.

Leave City Hall for Hunt's Bridge, Bronx, Tuckahoe, Hart's Corners and White Plains, at 7 and 10 a. m., and at 2 and 5 p. m.

Leave Harlem and Yorkville, at 7 10, 8 10, 9, 10, 11 10 a. m., and at 12 40, 2, 3 10, 5 10, 5 30, 6 10, and 7 p. m.

Leave Williams' Bridge and Fordham, at 6 45, 7 45, and 10 45 a. m., and at 12 15, 2 45, 4 45, and 5 45 p. m.

Leave White Plains, at 7 and 10 a. m., and at 2 and 5 p. m.

The freight train will leave the City Hall at 1 o'clock, p. m., and leave White Plains at 1 o'clock in the morning.

On Sundays, the White Plains train will leave the City Hall at 7 a. m. and 5 30 p. m.; will leave White Plains at 7 a. m. and 6 p. m.

On Sundays, the Harlem and Williams 'Bridge trains will be regulated according to he state of the weather. 18

SUMMER ARRANGEMENT.—NEW YORK AND ERIE RAILROAD LINE, from April 1st until further notice, will run daily (Sundays excepted) between the city of New York and Middletown Goshen, and intermediate places, as follows:

FOR PASSENGERS—

Leave New York at 7 A.M. and 4 P.M.
" Middletown at 6½ A.M. and 5½ P.M.

FARE REDUCED to $1 25 to Middletown—way in proportion. Breakfast, supper and berths can be had on the steamboat.

FOR FREIGHT—

Leave New York at 5 P. M.
" Middletown at 12 M.

The names of the consignee and of the station where to be left, must be distinctly marked upon each article shipped. Freight not received after 5 P. M. in New York.

Apply to J. F. Clarkson, agent, at office corner of Duane and West sts. H. C. SEYMOUR, Sup't.

March 25th, 1846.

Stages run daily from Middletown, on the arrival of the afternoon train, to Milford, Carbondale, Honesdale, Montrose, Towanda, Owego, and West; also to Monticello, Windsor, Binghamton, Ithaca, etc., etc. Agent on board. 13 tf

BOSTON AND ALBANY.—WESTERN RAILROAD.—Fare Reduced.

1846..Spring Arrangement..1846

Commencing April 1st.

Passenger trains leave daily, Sundays excepted—

Boston	7½ p. m.	and 4 p. m.	for Albany.
Albany	6½ "	and 2½ "	for Boston.
Springfield	7 "	and 1 "	for Albany.
Springfield	7 "	and 1½ "	for Boston.

Boston, Albany and Troy:

Leave Boston at 7½ a. m., arrive at Springfield at 12 m., dine, leave at 1 p. m., and reach Albany at 6½ p. m.

Leave Boston at 4 p. m., arrive at Springfield at 8 p. m., lodge, leave next morning at 7, and arrive at Albany at 12½ m.

Leave Albany at 6½ a. m., arrive at Springfield at ½ m., dine, leave at 1½ p. m., and arrive at Boston 6½ p. m.

Leave Albany at 2½ p. m., arrive at Springfield at 8½ p. m., lodge, leave next morning at 7, and arrive at Boston at 12 m.

The trains of the Troy and Greenbush railroad connect with all the above trains at Greenbush.

Fare from Boston to Albany, $5; fare from Springfield to Boston or Albany, $2 75.

Merchandize trains run daily (Sundays excepted) between Boston, Albany, Troy, Hudson, Northampton, Hartford, etc.

For further information apply to C. A. Read, agent, 27 State street, Boston, or to S. Witt, agent, Albany.

JAMES BARNES,
Superintent and Engineer.

Western Railroad Office, Springfield, April 1, 1846. 14 1y

TROY RAILROADS.—IMPORTANT NOTICE.—Troy and Greenbush Railroad, forming a continuous track from Boston to Buffalo and Saratoga Springs.

This road is new, and laid with the heaviest iron H rail. Trains will always be run on this road connecting at Greenbush each way with the trains to and from *Boston* and intermediate places, leaving Greenbush daily at 1¼ p.m. and 6 p.m., or on arrival of the trains from Boston; leave Troy at 7½ a. m. and 4½ p.m., or to connect with trains to *Boston*

Trains also run hourly on this road between Troy and Albany. Running time between Greenbush and Troy, 15 minutes.

TROY AND SCHENECTADY RAILROAD.

This road is laid its entire length with the heaviest H rail—which is not the fact with the road from Albany. Trains will always be run on this road connecting each way, to and from Buffalo and intermediate places. Leave Troy for Buffalo at 7½ a.m. and 1 p.m. and 6½ p.m., or to connect with the trains for the west; leave Schenectady at 2½ a.m., 8½ a.m., 1 p.m. and 3½ p.m., or on arrival of the trains from Buffalo and intermediate places.

TROY AND SARATOGA RAILROAD.

THE ONLY DIRECT ROUTE.

No change of passenger, baggage or other cars on this route. Cars leave Troy for Ballston, Saratoga Springs, Lake George and White Hall at 7½ a.m., (arriving one hour in advance of the train from Albany,) and at 3½ p.m. Returning, leave Saratoga at 9 a.m. and 3½ p.m., (reaching Troy in time for the evening boats to New York.) Cars also leave Troy for the Burrough at 3½ p.m. and 7 p.m., connecting with packet boats for the north. This takes passengers from New York and Boston to Montreal in 44 hours.

N.B. Travellers will find the routes through Troy most convenient and economical, and as expeditious as any other. The steamboats to and from New York land within a few steps of the railroad office, and passengers are taken up and landed by the different railroad lines at the doors of principal hotels, thus saving all necessity for, and annoyance from, hack drivers, cabmen, runners, etc.

Aug. 3, 1846. 1y 32

THE BEST RAILROAD ROUTE TO THE Lake and Buffalo, from Cincinnati.

Take Cars to Xenia, 65 miles; take Stage to Mansfield, 88 miles; thence by Cars to Sandusky, 56 miles to the Lake; thence Steamboat to Buffalo, 230 miles.

Fare from Cincinnati to Sandusky.....$8 00
" " Sandusky to Buffalo, Cabin..... 6 00
" " " " " Steerage.... 4 50

Fare by this route, although the cheapest across the state, will be reduced in a short time, railroad lengthened, and speed increased.

Leave Cincinnati in the morning, arrive at Columbus at night.

Leave Columbus in the morning, arrive at Sandusky same day.

Leave Sandusky, by Boat, in the morning, arrive at Buffalo next morning in time for the Cars north and east for Niagara Falls, Canada, Saratoga Springs, Troy, Albany, Boston, New York, Washington, or Philadelphia.

Passengers should not omit to pay their fare through from Cincinnati to Sandusky, or from Columbus to Sandusky via Mansfield; as this route is the only one that secures 56 miles [this road is run over in 2h. 50m.,] most railroad which is new, and is the shortest, cheapest and most expeditious across the state.

Fares on the New York railroads are about to be reduced.

B. HIGGINS, *Sup't, etc.*
M. & S. C. R. R. Co.

Sandusky, Ohio.

RAILROAD IRON.—THE "MONTOUR Iron Company," Danville, Pa., is prepared to execute orders for the heavy Rail Bars of any pattern now in use, in this country or in Europe, and equal in every respect in point of quality. Apply to MURDOCK, LEAVITT & CO.,
Agents.
Corner of Cedar and Greenwich Sts. 48 1y

NEW RAILROAD ROUTE FROM BUFFALO to Cincinnati.

Passengers destined for Columbus and Cincinnati,

O., Louisville, Ky., St. Louis, Mo., Memphis, Tenn., Vicksburg, Natches, New Orleans, and all intermediate ports, will find a new, and the most expeditious and comfortable Route, by taking Steamboats at Buffalo, landing at Sandusky City, Ohio, distance.....230 miles.
From thence by Cars, over the Mansfield Railroad which is new and just opened [laid with heavy Iron,] to Mansfield, distance..... 56 "
Thence by Stage via Columbus to Xenia over gravel and Macadamized Road, (the best in the state,) in new coaches, distance..... 88 "
Thence, over the Little Miami Railroad, from Xenia to Cincinnati, distance.... 65 "

TIME.

From Buffalo to Sandusky..... 24 hours.
Leave Sandusky 5 a.m. to Columbus.... 14 "
From Columbus to Cincinnati..... 15 "

Or say 30 hours from Sandusky to Cincinnati over this route, including delays.

FARE.

From Buffalo to Sandusky, Cabin.....$6 00
" " " " Steerage..... 3 00
" Sandusky to Columbus..... 4 50
" " *through* to Cincinnati..... 8 00

Passengers should not omit to pay their fare *through* from Sandusky City to Cincinnati and take receipts availing themselves of the benefit of a contract existing between the said Railroad and Stage Co's, securing 121 miles travel by good Railroad and 88 miles by Stage, in crossing from Lake Erie to the Ohio river, in the space of 30 hours.

Passengers destined for St. Louis, or any point below on the Mississippi, will save by taking this route, from 4 to 6 days time and travel, and nearly half the expense, over the Chicago and Peoria route to the above places.

Fare by this route, although the cheapest, will in a short time be reduced, Railroad lengthened, and speed increased.

B. HIGGINS, *Sup't, etc.*
M. & S. C. R. R. Co.

Sandusky City, Ohio.

BALTIMORE AND OHIO RAILROAD. MAIN STEM. The Train carrying the Great Western Mail leaves Baltimore every morning at 7½ and Cumberland at 8 o'clock, passing Ellicott's Mills, Frederick, Harpers Ferry, Martinsburgh and Hancock, connecting daily each way with—the Washington Trains at the Relay House seven miles from Baltimore, with the Winchester Trains at Harpers Ferry — with the various railroad and steamboat lines between Baltimore and Philadelphia and with the lines of Post Coaches between Cumberland and Wheeling and the fine Steamboats on the Monongahela Slack Water between Brownsville and Pittsburgh. Time of arrival at both Cumberland and Baltimore 5½ P. M. Fare between those points $7, and 4 cents per mile for less distances. Fare through to Wheeling $11 and time about 36 hours, to Pittsburgh $10, and time about 32 hours. Through tickets from Philadelphia to Wheeling $13, to Pittsburgh $12. Extra train daily except Sundays from Baltimore to Frederick at 4 P. M., and from Frederick to Baltimore at 8 A. M.

WASHINGTON BRANCH.

Daily trains at 9 A. M. and 5 P. M. and 12 at night from Baltimore and at 6 A. M. and 5½ P. M from Washington, connecting daily with the lines North, South and West, at Baltimore, Washington and the Relay house. Fare $1 60 through between Baltimore and Washington, in either direction, 4 cents per mile for intermediate distances. s13y1

80 RAILROAD IRON.
Tons 2½ x ½ Flat Bar Railroad Iron.
50 " 1½ x ½ " " " "
8 " 2½ x ½ " " " "
15 " 1 x ½ " " " "
with Spikes and Plates, for sale by
A. & G. RALSTON & CO.,
1m30 4 South Front st., Philadelphia.

BALTIMORE AND SUSQUEHANNA Railroad.—Reduction of Fare. Morning and Afternoon Trains between Baltimore and York.—The Passenger trains run daily, except Sunday, as follows:

Leaves Baltimore at.....9 a.m. and 3½ p.m.
Arrives at.....9 a.m. and 6½ p.m.
Leaves York at.....5 a.m. and 3 p.m.
Arrives at.....12½ p.m. and 8 p.m.
Leaves York for Columbia at..1½ p.m. and 8 a.m.
Leaves Columbia for York at..8 a.m. and 2 p.m.

FARE.

Fare to York.....$1 50
" Wrightsville..... 2 00
" Columbia..... 2 12½
Way points in proportion.

PITTSBURG, GETTYSBURG AND HARRISBURG.

Through tickets to Pittsburg via stage to Harrisburg..... $9
Or via Lancaster by railroad..... 10
Through tickets to Harrisburg or Gettysburg.. 3
In connection with the afternoon train at 3½ o'clock, a horse car is run to Green Spring and Owing's Mill, arriving at the Mills at.....5½ p.m.
Returning, leaves Owing's Mills at.....7 a.m.

D. C. H. BORDLEY, *Sup't.*
31 1y Ticket Office, 63 North st.

LEXINGTON AND OHIO RAILROAD. Trains leave Lexington for Frankfort daily, at 5 o'clock a.m., and 2 p.m.

Trains leave Frankfort for Lexington daily, at 8 o'clock a.m. and 2 p.m. Distance, 28 miles. Fare $1·25.

On Sunday but one train, 5 o'clock a.m. from Lexington, and 2 o'clock p.m. from Frankfort.

The winter arrangement (after 15th September to 15th March) is 6 o'clock a.m. from Lexington, and ma. 9. from Frankfort, other hours as above.

351y

SOUTH CAROLINA RAILROAD.—A Passenger Train runs daily from Charleston, on the arrival of the boats from Wilmington, N. C., in connection with trains on the Georgia, and Western and Atlantic Railroads—and by stage lines and steamers connects with the Montgomery and West Point, and the Tuscumbia Railroad in N. Alabama.

Fare through from Charleston to Montgomery daily.....$26 50
Fare through from Charleston to Huntsville, Decatur and Tuscumbia..... 22 00

The South Carolina Railroad Co. engage to receive merchandize consigned to their order, and to forward the same to any point on their road; and to the different stations on the Georgia and Western and Atlantic railroad; and to Montgomery, Ala., by the West Point and Montgomery Railroad.

1y25 JOHN KING, Jr, *Agent.*

CENTRAL RAILROAD—FROM SAVANnah to Macon. Distance 190 miles.

This Road is open for the transportation of Passengers and Freight. Rates of Passage, $8 00. Freight—

On weight goods generally... 50 cts. per hundred.
On measurement goods..... 13 cts. per cubic ft.
On brls. wet (except molasses and oil).....$1 50 per barrel.
On brls. dry (except lime)... 80 cts. per barrel.
On iron in pigs or bars, castings for mills, and unboxed machinery..... 40 cts. per hundred.
On hhds. and pipes of liquor, not over 120 gallons.....$5 00 per hhd.
On molasses and oil.....$6 00 per hhd.

Goods addressed to F. WINTER, Agent, forwarded free of commission. THOMAS PURSE,
40 Gen'l. Sup't. Transportation.

MANUFACTURE OF PATENT WIRE Rope and Cables for Inclined Planes, Standing Ship Rigging, Mines, Cranes, Tillers etc., by JOHN A. ROEBLING, *Civil Engineer*, Pittsburgh, Pa.

These Ropes are in successful operation on the planes of the Portage Railroad in Pennsylvania, on the Public Slips, on Ferries and in Mines. The first rope put upon Plane No. 3, Portage Railrord, has now run 4 seasons, and is still in good condition. 2v19 1y

CENTRAL AND MACON AND WESTERN Railroads, Ga.—These Roads with the Western and Atlantic Railroad of the State of Georgia, form a continuous line from Savannah to Oothcaloga, Ga., of 371 miles, viz:

	Miles.
Savannah to Macon—Central Railroad	190
Macon to Atlanta—Macon and Western	101
Atlanta to Oothcaloga—Western and Atlaniic	80

Goods will be carried from Savannah to Atlanta and Oothcaloga, at the following rates, viz:

	To Atlanta.	To Oothcaloga.
On Weight Goods—Sugar, Coffee, Liquor, Bagging, Rope, Butter, Cheese, Tobacco, Leather, Hides, Cotton Yarns, Copper, Tin, Bar & Sheet Iron, Hollow Ware & Castings	$0 50	$0 75
Flour, Rice, Bacon in Casks or boxes, Pork, Beef, Fish, Lard, Tallow, Beeswax, Mill Gearing, Pig Iron and Grind Stones	0 50	0 62½
On Measurement Goods—Boxes of Hats, Bonnets and Furniture, per cubic foot	0 20	0 26
Boxes and Bales of Dry Goods, Saddlery, Glass, Paints, Drugs and Confectionary, per cubic foot	0 20 pr. 100lbs.	35
Crockery, per cubic foot	0 15 " "	35
Molasses and Oil, per hhd., (smaller casks in proportion)	9 00	12 50
Ploughs, (large,) Cultivators, Corn Shellers, and Straw Cutters, each	1 25	1 50
Ploughs, (small,) and Wheelbarrows	0 80	1 05
Salt, per Liverpool Sack	0 70	0 95

Passage—Savannah to Atlanta, $10; Children, under 12 years of age, half price, Savannah to Macon, $7.

☞ Goods consigned to the subscriber will be forwarded free of Commissions.

☞ Freight may be paid at Savannah, Atlanta or Oothcaloga.

F. WINTER, *Forwarding Agent, C. R. R.*
Savannah, Aug. 15th, 1846. 1y34

GEORGIA RAILROAD. FROM AUGUSTA to ATLANTA—171 MILES. AND WESTERN AND ATLANTIC RAILROAD FROM ATLANTA TO OOTHCALOGA, 80 MILES.

This Road in connection with the South Carolina Railroad and Western and Atlantic Railroad now forms a continuous line, 388 miles in length, from Charleston to Oothcaloga on the Oostenaula River, in Cass Co., Georgia.

Rates of Freight, and Passage from Augusta to Oothcaloga.

On Boxes of Hats, Bonnets, and Furniture per foot ..... 16 cts.
" Dry goods, shoes, saddlery, drugs, etc., per 100 lbs. ..... 95 "
" Sugar, coffee, iron, hardware, etc. ..... 65 "
" Flour, bacon, mill machinery, grindstones, etc. ..... 33½ "
" Molasses, per hogshead $9·50; salt per bus. 20 "
" Ploughs and cornshellers, each ..... 75 "

Passengers $10·50; children under 12 years of age half price.

Passengers to Atlanta, head of Ga. Railroad, $7.

German or other emigrants, in lots of 20 or more, will be carried over the above roads at 2 cents per mile.

Goods consigned to S. C. Railroad Co. will be forwarded free of commissions. Freight may be paid at Augusta, Atlanta, or Oothcaloga.

J. EDGAR THOMSON,
Ch. Eng. and Gen. Agent.
Augusta, Oct. 21 1845 *44 1y

BOILER IRON.—55 TONS ASSORTED Boiler Iron, Nos. 3, 4 and 5, and of widths of 26, 32 and 36 inches, random lengths, in store, and for sale by A. & G. RALSTON & CO.,
1m30 4 South Front st., Philadelphia.

BACK VOLUMES OF THE RAILROAD JOURNAL for sale at the office, No. 23 Chambers street

THE WESTERN AND ATLANTIC Railroad.—This Road is now in operation to Oothcaloga, a distance of 80 miles, and connects daily (Sundays excepted) with the Georgia Railroad.

From Kingston, on this road, there is a tri-weekly line of stages, which leave on the arrival of the cars on Tuesday, Thursday and Saturday, for Warrenton, Huntsville, Decatur and Tuscumbia, Alabama, and Memphis, Tennessee.

On the same days, the stages leave Oothcaloga for Chattanooga, Jasper, Murfreesborough, Knoxville and Nashville, Tennessee.

This is the most expeditious route from the east to any of these places.

CHAS. F. M. GARNETT,
Chief Engineer.
Atlanta, Georgia, April 16th, 1846. 1y1

LITTLE MIAMI RAILROAD.—1846.— Summer Arrangement.

Two passenger trains daily.

On and after Tuesday, May 5th, until further notice, two passenger trains will be run—leaving Cincinnati daily (Sundays excepted) at 9 a. m. and 1½ p. m. Returning, will leave Xenia at 5 o'clock 50 min. a. m., and 2 o'clock 40 min. p.m.

On Sundays, but one train will be run—leaving Cincinnati at 9, and Xenia at 5 50 min. a. m.

Both trains connect with Neil, Moore & Co.'s daily line of stages to Columbus, Zanesville, Wheeling, Cleveland, Sandusky City and Springfield.

Tickets may be procured at the depot on East Front street.

The company will not be responsible for baggage beyond fifty dollars in value, unless the same is returned to the conductor or agent, and freight paid at the rate of a passage for every $500 in value above that amount. W. H. CLEMENT,
19 Superintendent.

GREAT SOUTHERN MAIL LINE! VIA Washington city, Richmond, Petersburg, Weldon and Charleston, S. C., direct to New Orleans. The only Line which carries the Great Southern Mail, and Twenty-four Hours in advance of Bay Line, leaving Baltimore same day.

Passengers leaving New York at 4½ P.M., Philadelphia at 10 P.M., and Baltimore at 6½ A.M., proceed without delay at any point, by this line, reaching Richmond in *eleven*, Petersburg in *thirteen and a half hours*, and Charleston, S. C., in *two days* from Baltimore.

Fare from Baltimore to Charleston $21 00
" " " Richmond 6 60

For Tickets, or further information, apply at the *Southern Ticket Office*, adjoining the *Washington Railroad Office*, Pratt street, Baltimore, to
1y14 STOCTON & FALLS, Agents.

MARAMEC IRON WORKS FOR SALE. By Authority of a power of Attorney from Messrs. Massey and James, I will sell at Public Auction, at the Court House in the city of St. Louis, on *MONDAY, the 2nd day of November next*, the above named valuable IRON WORKS—together with **8,000** ACRES OF LAND, more or less, on which there are several *valuable and productive Farms* open and in cultivation.

The Maramec Iron Works are situated at the Maramec Big Spring, in Crawford Co., Mo., and consist of **1** BLAST FURNACE; **1** AIR FURNACE; **1** REFINING FORGE, with large Hammer for making Blooms and Anchonies; **2** CHEFFERY FORGES for Drawing Bar Iron; **1** ROLLING MILL for Rolling Blooms into Bars and Plates; **1** SAW AND **1** GRIST MILL,

All within 300 Yards of the head of the spring. There are 2 large frame Coal Houses, and all other Buildings necessary, such as Shops and Houses for the workmen.

This Spring is one of the largest in Missouri, discharging at the lowest time 7,000 cubic feet of water per minute. The Ore Bank from which the Ore has been heretofore taken is about 600 yards from the furnace; it is the *Specular Iron Ore*, the best for making Bar Iron, and the quantity inexhaustible.—It is an Iron Mountain, 400 feet above the level of the Maramec River; the ore is entirely uncovered, and there is an easy descent and a good road from it to the furnace.

The lands have been carefully selected by one of the owners with a view to the interest and convenience of the Works, and are situated principally on the Maramec River and its tributaries, embracing the best bottom lands and water powers. The following detatched tracts, comprized in the above quantity, were selected for the advantages they possess;

183½ ACRES in T. 40 N. of R. 8 W. in Sec. 3, near Wherry's Mill, in Osage Co.; entered to secure a very valuable Mill power on the Branch Spring and a good landing on the Gasconade River.

80 ACRES on Benton's Creek, 12 miles from the Works; entered to secure an extensive and valuable Ore Bank 2½ miles from the Maramec, at a point where there is ample water power.

320 ACRES in T. 38 N. of R. 4 W. in Sec. 22 and 28, affording an extensive and valuable water power on the Maramec river.

160 ACRES in T. 37 N. of R. 3 W. in Sec. 4, embraces two inexhaustible and valuable Ore Banks and is 1½ miles from Water power sufficient for a furnace and Grist Mill, and is distant 6 miles from the above site on the Maramec.

80 ACRES in T. 37 N. of R. 8 W. in Sec. 33, including an extensive bank of excellent Ore, and distant 1½ miles from water power on the waters of the Gasconade River, in Pulaski Co., sufficient for Furnace and Mills. All those Banks are of the same kind as the one at the Works, and deemed inexhaustible.

1 LOT, containing nearly one Acre, on the South Bank of the Missouri River, 4 Miles above the town of Hermann, purchased for a warehouse and landing, and is one of the best landings on the River.

The lands above described are well timbered, and have been selected with a view to have an ample supply of wood and coal, for fences, building and other purposes. There are on the land valuable quarries of Limestone well adapted for Fluxes for the Ore, and also good quarries of Rock suitable for building. There are also on the land a great number the finest kind of Springs. A large portion of the lands are bottoms well adapted to the production of Corn and other crops. The Works are situated in a very pleasant and healthful part of the country. The Maramec ore is believed to be admirably adapted to the manufacture of steel.

A further description of the property at this time is considered unnecessary, as those wishing to purchase will no doubt view the property, which will be shown by the Agent, residing at the works.

The terms of payment required will be one-third of the purchase money in hand and the balance in three equal annual payments, secured by mortgage on all the property.

A more particular description of the property will be given, and further conditions of the sale made known, on the day of sale.

JNO. F. ARMSTRONG, Agent.
St. Louis, June 6, 1846.

☞ The Louisville, (Ky.,) Journal, Cincinnati Gazette, Tribune (Portsmouth, O.,) Nashville Whig, Pittsburg Gazette, National Intelligencer, United States Gazette, (Phila.) Railroad Journal (N. Y.,) acd Boston Atlas, will publish the above once a week until the 20th day of October next, and send bills to this office for settlement, and *mark price on first paper.* 18t25

TO RAILROAD COMPANIES AND MANUFACTURERS of railroad Machinery. The subscribers have for sale Am. and English bar iron, of all sizes; English blister, cast, shear and spring steel; Juniata rods; car axles, made of double refined iron; sheet and boiler iron, cut to pattern; tiers for locomotive engines, and other railroad carriage wheels, made from common and double refined B. O. iron; the latter a very superior article. The tires are made by Messrs. Baldwin & Whitney, locomotive engine manufacturers of this city. Orders addressed to them, or to us, will be promptly executed.

When the exact diameter of the wheel is stated in the order, a fit to those wheels is guaranteed, saving to the purchaser the expense of turning them out inside. THOMAS & EDMUND GEORGE,
ja45 N. E. cor. 12th and Market sts., Philad., Pa.

RICH & CO'S IMPROVED PATENT SALAMANDER SAFES.

Warranted free from dampness, as well as fire and thief proof.

Particular attention is invited to the following certificates, which speak for themselves:

TEST No. 10.

Certificate from Mr. Silas C. Field, of Vicksburgh, Mississippi.

On the morning of the 14th ult., the store owned and occupied by me in this city, was, with its contents, entirely consumed by fire. My stock of goods consisted of oil, rosin, lard, pork, sugar, molasses, liquors, and other articles of a combustible nature, in the midst of which was one of Rich's Improved Patent Salamander Safes, which I purchased last October of Mr. Isaac Bridge, New Orleans, and which contained my books and papers. This safe was red hot, and did not cool sufficiently to be opened until 16 hours after it was taken from the ruins. At the expiration of that time it was unlocked, when its contents proved to be entirely uninjured, and not even discolored. I deem this test sufficient to show that the high reputation enjoyed by Rich's Safes is well merited. S. C. FIELD.

Vicksburgh, Miss., March 9th, 1846.

Certificate from Judge Battaile, of Benton, Mississippi.

In October last I purchased one of Rich's Improved Salamander Safes, which was in the fire at the burning of my law office, and several adjoining buildings in this place, on the 17th of November last, at about half-past one o'clock A. M. of that day. The building was entirely consumed; and I take pleasure in stating that my papers in said safe were preserved without injury. A receipt book which was in said safe, had the glue drawn out of its leather back by the heat, and the back broken; but the leaves of the book, and the writing thereon, were entirely uninjured; and some of the writing which was of blue ink, was also left wholly uneffaced and not in the least faded. Said safe was by the fire heated perfectly red hot, and I do not hesitate to say, that said safe is a perfect security against fire. But the safe tumbled over during the fire, and being heated red hot, the outer sheeting of the door became pressed in, and the bolts of the lock bent, so that it could not be unlocked, and I had to have it broken open. JOHN BATTAILE.

Benton, Miss., December 27, 1845.

Still other Tests in the Great Fire of July 19, 1845.

The undersigned purchased of A. S. Martin, No. 138½ Water street, one of Rich's Improved Patent Salamander Safes, which was in our store, No. 54 Exchange place. The store was entirely consumed in the great conflagration on the morning of the 19th inst. The safe was taken from the ruins 52 hours after, and on opening it, the books and papers were found entirely uninjured by fire, and only slightly wet—the leather on some of the books was parched by the extreme heat. RICHARDS & CRONKHITE.

New York, 21st July, 1845.

One of Rich's Improved Salamander Safes, which I purchased on the 2d of June last of A. S. Marvin, 138½ Water street, agent for the manufacturer, was exposed to the most intense heat during the late dreadful conflagration. The store which I occupied, No. 46 Broad street, was entirely consumed; the safe fell from the 2d story, about 15 feet, into the cellar, and remained there 14 hours, and when found, I am told, and from its appearance afterwards, should judge that it had been heated to a red heat. On opening it, the books and papers were found not to have been touched by fire. I deem this ordeal sufficient to confirm fully the reputation that Rich's safe has already obtained for preserving its contents against all hazards. (Signed,)

WM. BLOODGOOD.

New York, 21st July, 1845.

The above safes are finished in the neatest manner, and can be made to order at short notice, of any size and pattern, and fitted to contain plate, jewelry, etc. Prices from $50 to $500 each. For sale by

A. S. MARVIN, General Agent,
138½ Water st., N. Y.

Also by Isaac Bridge 76 Magazine street, New Orleans.

Also by Lewis M Hatch, 120 Meeting street Charleston, S. C. 16 tf

CUSHMAN'S COMPOUND IRON RAILS etc. The Subscriber having made important improvements in the construction of rails, mode of guarding against accidents from insecure joints, etc. —respectfully offers to dispose of Company, State Rights, etc., under the privileges of *letters patent* to Railroad Companies, Iron Founders, and others interested in the works to which the same relate. Companies reconstructing their tracks now have an opportunity of *improving* their roads on terms very advantageous to the varied interests connected with their construction and operation; roads having in use flat bar rails are particularly interested, as such are permanently available by the plan.

W. Mc. C. CUSHMAN, *Civil Engineer*,
Albany, N. Y.

Mr. C. also announces that Railroads, and other works pertaining to the profession, may be constructed under his advice or personal supervision. Applicaitons must be post paid.

RAILROAD IRON AND LOCOMOTIVE Tyres imported to order and constantly on hand by A. & G. RALSTON

Mar. 20tf 4 South Front St., Philadelphia.

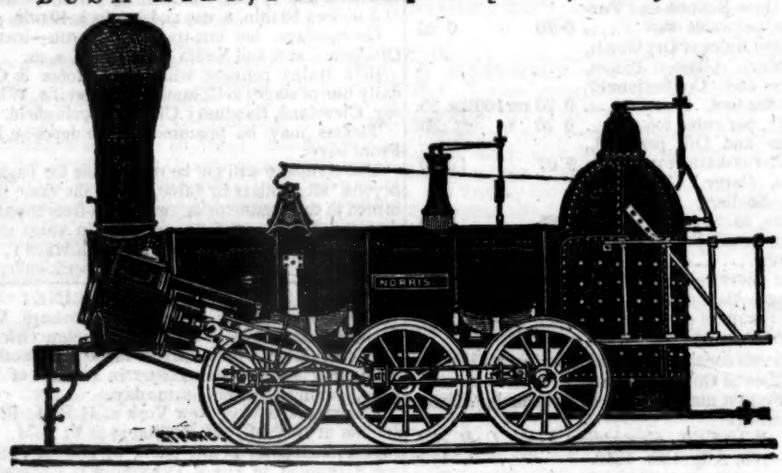
THE NEWCASTLE MANUFACTURING Company continue to furnish at the Works, situated in the town of Newcastle, Del., Locomotive and other steam engines, Jack screws, Wrought iron work and Brass and Iron castings, of all kinds connected with Steamboats, Railroads, etc.; Mill Gearing of every description; Cast wheels (chilled) of any pattern and size, with Axles fitted, also with wrought tires, Springs, Boxes and bolts for Cars; Driving and other wheels for Locomotives.

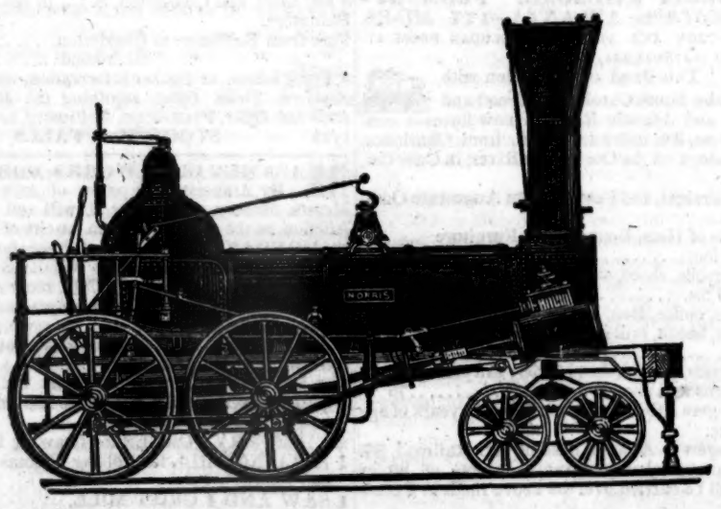
The works being on an extensive scale, all orders will be executed with promptness and despatch. Communications addressed to Mr. William H. Dobbs, Superintendent, will meet with immediate attention. ANDREW C. GRAY,

a45 President of the Newcastle Manuf. Co.

NORRIS' LOCOMOTIVE WORKS.

BUSH HILL, PHILADELPHIA, Pennsylvania.





MANUFACTURE their Patent 6 Wheel Combined and 8 Wheel Locomotives of the following descriptions, viz:

Class	1,	15	inches	Diameter	of	Cylinder,	× 20	inches Stroke.
"	2,	14	"	"	"	× 24	"	"
"	3,	14½	"	"	"	× 20	"	"
"	4,	12½	"	"	"	× 20	"	"
"	5,	11½	"	"	"	× 20	"	"
"	6,	10½	"	"	"	× 18	"	"

With Wheels of any dimensions, with their Patent Arrangement for Variable Expansion.

Castings of all kinds made to order: and they call attention to their Chilled Wheels, for the Trucks of Locomotives, Tenders and Cars.

NORRIS, BROTHERS.

Direct Lines and the Branch System.

The question whether the country can be best served by *great trunk lines*, sending off into each district, and to each town, a lateral branch on either side, and so concentrating on the main line the whole traffic in both directions, or whether *direct lines* should be made to each individual place, has in a great measure been practically settled in the present session of parliament. The great "direct independents" for the most part have vanished; and, saving the "direct Portsmouth," we do not call to mind the sanctioning of any other "direct" line. It may, perhaps, be regretted that the government should have failed to anticipate the wants of the community, and to provide beforehand some uniform system of trunk and branch lines, by which the traffic should have been guided into thebest and most profitable channels. The duty of rulers is to think *beforehand*, and to provide *beforehand*, for the wants and well being of the community; but we well know that government is never beforehand, and we must be content with the system as it has been left to struggle through its own difficulties, and tolerate the evils, which the forethought and care of a paternal and wise legislation might have avoided, but failed to foresee.

Having thus a little breathing time, it will be appropriate to consider the following views of a distinguished French engineer, with reference to French lines, and find some other occasion to test the principles in reference to our own country:

We have stated that there are numerous difficulties attending the determination of railway lines, which can only be effectually met and overcome by the study of first principles. In the midst of the fierce struggles and incessant disputes called into action by the competition of rival localities—in the face of private interests, which seek, under the mask of "the public welfare," to veil their individual pretensions, general principles alone present a basis sufficiently firm for the conviction of men desiring nothing but the truth.

We shall begin with the most obvious question—that of the system to be pursued in the combination of the railway lines. May we, without danger, go on multiplying on every side the principal branches from one main trunk? or should we not act more rationally, more prudently, in applying to our railways the rules which nature has prescribed to herself, and, as it were, revealed to us in the distribution of the waterways, dividing France into artificial basins, each of them accommodated by a single great artery into which would flow, like so many veins, the branches conducted to those points of our frontier which we desire to benefit.

In our impetuous and impatient desire to obtain railways, we forgot to reason, and to observe the conditions under which alone these means of carriage can be truly useful or rationally possible. Railways, like all great mechanical instruments brought to perfection, are expensive to establish, and can only be made to work economically upon the condition of working much and incessantly. As a general rule the tendency of perfection in industrial tools is to increase the general outlay of capital, and to diminish the cost of special production. In manufactures produced by human labor the workman is the chief cost. Far from diminishing with the demand, it generally happens that wages rise with a great increase of fabrication, so as to render production more costly, while a long stagnation produces a contrary effect. With machinery the case is different. In activity or at rest, the factory, once established, equally represents the interest and redemption of the enormous capital expended in its creation. In order, therefore, to work economically, it is necessary that this charge of the capital should be so distributed over a number of objects as to weigh but lightly on each.

Thus, to return to the question which occupies us, the railroad, as a mechanical means of locomotion, may, according as it is well or ill employed, become either the most economical instrument of carriage as yet discovered, or the most expensive. Once established, and whatever be its traffic, necessarily incurring for every mile of length expenses of maintenance and of management of at least £320 per annum—necessitated to provide the interest of the capital sunk in the work, or at least £880 per mile per annum. With a traffic of 500,000 passengers or tons of merchandize, the part cost to each passenger would be 4 centimes (a little above ⅓d.) but with 100,000 passengers per annum would amount to 20 (2d.) Such are the general expenses, properly so called; and for the cost of locomotion the case is, to a certain extent, the same. With an expenditure of 2½ francs (1s. 10d.) per mile, a train containing 30 or 300 passengers would cost, in the first case, for each person, 7½ centimes, and in the second, ¾ of a centime. It follows, from this twofold consequence, that railway carriage can only be made economical under two conditions: 1st, a considerable traffic of men and of goods, in order to diffuse the general expense over a great number of details; 2d, as limited a number of departures for each day as possible, in order to increase to its maximum the load of each train.

The number of passengers upon one line may be increased by giving to the great arteries the maximum of utility and the minimum of development; by lowering as much as possible the cost of carriage; by multiplying the opportunities and facilities of travelling, and shortening the length of the journey. The maximum of utility is obtained by traversing the important centres of population, the manufacturing localities, by avoiding the creation of rival lines. The minimum of development is the result of the judicious application of the system of common trunks. It is also by means of common trunks that a very moderate rate of charges can remunerate the parties working the line.

Finally, multiplying the opportunities of travelling is in every respect as much an economy of time as great speed or shortness of line. The traveller obliged to wait four or five hours upon a train loses as much time as he who is detained five hours longer on the road by the sinuosities of its course.—These opportunities cannot be more surely obtained than by spreading diverging lines over a wide extent of country: it is the only means of securing a patronage of persons and things sufficient to make frequent departures necessary.

Again, it is by means of common trunks that a large load for the train is collected.—Suppose that we have united Paris to Lorraine and Alsace, to Burgundy and to the Lyonnais, by what we have agreed to call direct lines; each train leaving Paris contains only the goods and persons belonging to the Strasbourg and Lyons line. Let us take on the other hand, a central point—Troyes, for example—since three great routes converge towards this spot, namely, those from Paris, from Strasbourg, and from Lyons.—Each train leaving one of the extremities will contain travellers destined for two different zones; for example, the train which leaves Lyons would carry passengers destined for the capital on the one hand, and for Lorraine and Alsace on the other. In like manner the trains passing between Paris and Troyes would be filled with passengers for the south and east.

For this reason it is quite incorrect to suppose, as is frequently done, that the cost of transit should be absolutely in proportion to the distances travelled over. When the general expenses are covered, we may say that the surplus travellers or bales of goods cost no more than the price of locomotive power, which is comparatively insignificant, when they form merely the filling up of a load.—Short lines are therefore, far from being the most economical.

To obtain this great concourse of persons and things, some writers have recommended the deflection of the great lines, so as to make them traverse all the localities placed in proximity to the railroad, and to develope the local traffic. But this theory, though true within certain limits, has become, with superficial supporters, the origin of some deplorable errors. In order, in a pecuniary point of view, to justify the lengthening of a line by one mile for the particular advantage of a locality, and to prevent its becoming a charge to the general traveller, it is necessary that it should receive as a counterpoise an increase of traffic of 240,000 persons, and of 120,000 tons to each mile. It is from great towns alone that one can look for such a result; therefore, there is little inducement to seek the amalgamation of those of an inferior order.

With common trunks the question presents itself under a different aspect. Lengthening the lines here appears to be a measure of economy, because, as we explained at the beginning, each branch appropriates to itself a traffic which otherwise would have been shared by two distinct routes. The general expenses are, therefore, diminished by a half for each unit transported.

An example will make this more obvious. Between Paris and Lyon, crossing Dijon, the

line which passes by Troyes is that of least length; that, consequently, whose scale of charges will be less burdensome to the populations of Burgundy, Franche-Comte, the Lyonnais, and the south. This line, with a traffic at least equal to that which passes through Yonne, will abundantly suffice for all its annual expenses, as well as for the payment of interest upon the capital expended in its construction, and will be able, therefore, to receive travellers from Lower Alsace and from Lorraine without an increase of expense. The distance between Troyes and Strasbourg is 215 miles; between Paris and Strasbourg by the valley of the Marne it is reckoned 300—a difference of 85 miles, corresponding to an increase of 10 francs for each passenger and 20 for goods.

Admitting (a thing little probable) that all the travellers on the Strasbourg line were to be conveyed (along the common trunk) by special trains, still the price of the journey from Paris to Strasbourg would be for the passengers 25 francs, for the goods 49 francs, by the line through Troyes. By the direct line it rises to 33 francs for the passengers, and to 64 francs for the goods. But that is not all. The bifurcation established at Troyes, leading at once north and south, would serve for the important communication forming between the basins of the Marne the Meuse and the Moselle on the one hand, and the basin of the Rhone on the other, as well as to supply fuel for the mineral districts and develope important traffic both of passengers and goods. Hence a new reduction in the amount of the general expense which weighed upon the travellers from Paris to Strasbourg; hence a new lowering of the charges.

Another example. An essential condition to be fulfilled by the network of northern communications would be the forming of international relations with England and Belgium—relations between England and Belgium carried on through the French territory and ports—relations of Paris with the northern departments—of Lille with Dunkirk. There is the choice between two courses—that of the direct lines, which would require the immediate construction of the road from Amiens to Boulogne, and from Lille to Dunkirk, with a branch to Calais; that of the common trunks, adopted last year, which would be realized in the formation of a single branch, starting from Ostricourt to toin Watten, whence would issue two lines, jerminating at the ports of Calais and Dunkirk. The first system, as compared with the second, would shorten by 53 miles the passage from Paris to the sea; by 12 miles that from Dunkirk to Lille and from Calais to Lille. Nothing, however, is easier than to show how much more burdensome it would be, both for passengers and goods, than the system of common trunks. The relative length of the proposed lines is, for the direct line, 163 miles; for that of the common trunks, 80 miles. The expense for earthworks and buildings, estimated at 12½ millions (half a million sterling) in the latter case, rises to 25 in the former. Finally, the passenger traffic, proved from the report of the commissioners of inquiry, gives the following figures: direct system, 16,420,000 persons travelling a mile: system of common trunk, 11,404,000. We say nothing of the carriage of goods, which, applied to great distances, remains nearly the same in all cases.

SYSTEM OF DIRECT LINES.

	£	s.	d.
Interest and redemption of £1,000,000 invested in the works, and 1,640,000 invested in purchase of lands and material, and in construction of way	158,400	0	0
Maintenance, direction, etc	54,200	0	0
Locomotive power	37,071	12	0
Total	249,671	12	0

Which gives for each passenger 6¼d. per mile.

SYSTEM OF COMMON TRUNKS.

Interest and redemption of £480,000 invested in the works, and £800,000 in purchase of land and material, and construction of way	76,800	0	0
Maintenance, direction, etc	26,600	0	0
Locomotive power	17,480	0	0
Total	120,880	0	0

Which gives for each passenger 4d. per mile.

Common trunks are, therefore able to carry goods and passengers on lower terms and with larger profits than direct lines, except in the case where the lengthening of their course is more that 50 per cent. of the direct length—a case which nowhere presents itself.

The general application of the system here indicated would combine the following advantages:—*To the treasury* it would save a large outlay of capital; *to the country* it would give the advantage of earlier construction: *to internal and international commerce* a low scale of charges: *to local districts* more frequent trains and more moderate prices.—*Railway Chronicle.*

Ventilation.

Royal Institute of British Architects. June 8th; W. Tite, V. P., in the Chair.

Sir T. Deane, of Cork, made some observations on the drawings which he exhibited of the Abbey Church of the Holy Cross, at Tipperary.

An address on ventilation was delivered by J. Toynbee, Esq., F. R. S., surgeon to the St. George's and St. James' General Dispensary. He introduced the subject, by stating that during the whole of his professional career he had almost constantly been attached to public medical institutions; and that he had slowly become aware of the existence of an enormous amount of disease in the human race. A large share of this disease was incurable when once produced; but he was in a position to prove that much of it could be wholly prevented. He, therefore, felt that it was the duty of medical men, while they devoted themselves to the cure and palliation of disease, also to exert themselves in behalf of preventive measures. In the performance of this duty, he had investigated the sources of disease; and he found that one of the most fertile was the want of a due supply of air in dwellings and public buildings. In speaking on the *necessity for ventilation*, it was shown that ten cubic feet of air, or a volume double the size of the person, is required for the purposes of respiration and transpiration each minute. The circulation of the blood was described as the process of carbonization—respiration as the process of decarbonization, in the 170,000,000 of air cells, forming a surface 30 times as large as that of the skin. In the process of transpiration, the so called insensible perspiration was continually given off; which, together with the vapor expelled from the lungs, amounted to two fluid ounces per hour. Thus, 500 people in a church during two hours, give off 15 gallons of water into the air; which, if not carried away, saturates everything in the building, after it has been breathed over and over again, in conjunction with the impurities it contains collected from each individual.—The use of lamps gas and oil, was shown to deteriorate the air, and to add much moisture to it. The effects of neglect for carrying out plans for ventilation are shown in the production of three of the most formidable and frequent diseases which affect the human race—fever, scrofula and consumption. Numerous facts were adduced in proof of this view; and the way in which these diseases was produced was pointed out. Thus, it was shown that all those who were among the victims, in the Black Hole of Calcutta, and did not perish from immediate suffocation, died, in a short time afterwards, of putrid fever. The proportion of people dying of consumption, who follow in-door occupations is double that of those who work out of doors; and it increases as the space for labor is more contracted. Dr. Guy has shown that it is more common in the upper part of large establishments, as printing houses, etc., where the air is more vitiated. The inhabitants of towns exposed to the wind are much less liable to consumption than those which are well protected and sheltered; and the goitre afflicting the inhabitants of the valleys of the Rhone is produced by a stagnation of air.—Instances were cited of schools in which the mass of the children were scrofulous, and to whom an increased diet, warmer clothing, etc., was not productive of any benefit—and by the aid of proper plans of ventilation the disease disappeared entirely. The same result has taken place in the Zoological gardens, Regent's park, since the new dens open to the air have been in use. It was then shown that hitherto there had been a total absence of plans for the supply of pure air, in a sufficient quantity, to the abodes of human beings. Towns are erected in localities wholly unadapted for residences. They are constructed so as effectually to exclude the air, and often increase to so large a size as to be rendered, from that cause alone, most unhealthy. The last portion of the address was devoted to the consideration of the means to be adopted for securing an efficient ventilation. The example set by nature ought to be followed; and the gentle changes produced by the wind should be as much as possible imitated. The great principle is to admit into rooms and houses a *large quantity of air at a moderate temperature* (60 to 65 deg.); and that there should be an outlet for the vitiated air; the pure air to be admitted within three or four feet of the floor, and to

be warmed by aid of the fire place. The various plans for warming the fresh air were examined; and their errors were found to have been, that a small quantity was admitted through a narrow channel, and at a temperature much too high, so that its nature was deteriorated. The subject of warming abodes was also alluded to; and it was shown that, from the bad mode of construction of stoves and fire places, and from improper materials being used, the smoke was not consumed, ventilation was rendered impossible, and the greater part of the heat dispersed up the chimney. Mr. Toynbee was happy to say that he had recently examined some plans about to be patented by a gentleman who has devoted a long life to the subject, and brought it to great chemical aud practical knowledge—in which these evils would be remedied, and important advantages gained. In speaking of the means for insuring the egress of the vitiated air, it was stated that, as its temperature, on escaping from the mouth, is between 80 and 90 deg., it rises to the upper part of the room—from which there should always be a means of escape. Dr. Arnott's valve had been generally used for this purpose; and thousands of people will be indebted to its use for their lives and health. If it were the custom of this country to erect statues in memory of those who like Jenner, saved the lives of thousands of their fellow men, Dr. Arnott, in manifold ways, had earned for himself this distinction. A modification of Dr. Arnott's chimney valve by Daw, a working man, was alluded to and displayed—having the advantage of always remaining open, unless voluntarily closed. Various suggestions were made, showing how plans of ventilation may be carried out; and Mr. Toynbee concluded by appealing to the architects to adopt efficient plans in the construction of buildings—by doing which, they would confer unbounded good upon the public, by the improvement of the public health.

Dr. Buckland and R. A. Slaney, Esq., a member of the health of towns commission, offered some remarks on the ill effects arising from badly ventilated apartments, and from the effluvia escaping out of the gratings in the streets, which are connected with the sewers by means of a gas light burning within lofty air shafts.

Models were exhibited by Mr. Stedall, of his patent Scolecothic ventilator; adapted for the cure of smoky chimneys, and for the admission of fresh air into the engine rooms and other confined parts of vessels.—*Civil Engineer.*

Miscellaneous Items.

Georgia Railroads.—Within the present month there will be a continuous railway of 543 miles in Georgia, in actual operation.—Georgia will make herself great and prosperous, by her splendid system of internal improvements.

Little Miami Railroad.—The receipts on this road show a steady increase of business. Since the road has been opened to Springfield the number of passengers has increased 75 per cent.—*Cincinnati Gaz.*

The Mad river railroad is now open to Kenton, and by the 1st of November will be extended to Bellefontaine, thus reducing the distance to be travelled by stages from this city to about 30 miles.—*Cincinnati Gaz.*

A Railroad.—The Morristown Jerseyman states that the route for the continuation of the railroad from that town to Dover, was settled on Monday of last week, and that the eastern or lower route had been determined on.

Fish and Railways.—Railways have materially affected the value of fish. The number of fishmongers in Birmingham has, since the opening of the various railways which now centre in that town, (since 1829,) increased from 10 to 40; and the quantity of fish consumed, from 400 to 3,910 tons annually. At Manchester the poorer classes are supplied daily at an average of 2d. per pound.—*Railway Chronicle.*

Railroads.—The Concord Courier says the grantees and associates of the Sullivan railroad was held at Charleston, Aug. 15. There was a full attendance, and a committee was appointed to make a permanent survey of the route and estimate, who will immediately enter upon the work.

The directors of the Passumpsic road are engaged in purchasing the right of way, etc., preparatory to commencing operations on their road. The first lettings will be in Fairlee and Bradford, just north of Orford bridge.

The railroad commissioners have adjourned the location of the remainder of the Cheshire road till the 10th of September. The location of the depot in Keene, was to have been determined on Thursday last. On Friday the point and terms of connection of the Cheshire and Rutland railroads were to be determined by committees of the two roads, meeting at Bellows Falls.

A meeting of the stockholders of the Concord road is to be held in Nashua, early in September, to decide upon the propriety of building the Souhegan roads and also of subscribing to the Portsmouth road.

Our Railroad.—The Rutland Herald says, Mr. Gilbert, with his party of engineers, has nearly completed the locating survey from Burlington to this place. We have examined the maps and profiles of the located line from Burlington to Middlebury (33 miles,) and do not hesitate to pronounce it for directness of line, ease of curves and grades, and cost of construction, as good a line as can be found in New England. Mr. Gilbert assures us that the line from Middlebury to this place is equally good with the north of Middlebury: making 65 consecutive miles of cheaper road than any line of the same length in New England. The result of the locating survey so far, is highly gratifying to the friends of the project, as it has established the fact that our road can be built cheaper even than Mr. Gilbert first estimated. We are now assured that the whole 65 miles from Burlington to Rutland can be graded, including masonry and bridging, for $400,000. As soon as the surveys are completed to this place, and the profiles and estimates are made up, it is the intention of the building committee to advertise portions of the road for contract. Already proposals have been received from responsible contractors for grading portions of the road upon highly advantageous terms for the company. The locating survey has ascertained the feasibility of new lines that will better accommodate some of the towns upon the line, more particularly through the town of Pittsford.

In the mean time the shareholders are responding to the assessment with the hearty good will which shows them in earnest in the matter, and which is the best guarantee to the directors for a vigorous prosecution of the work.

In several of the towns the assessment has been paid on *every* share, and in the others it is nearly paid. The shareholders have disappointed themselves in the promptitude with which they have responded to the call of the directors.

We learn too that the president of the Cheshire road has at length satisfied himself that the Rutland road is *twenty miles shorter* than ANY other route from Boston to Burlington.—Matters now seem in a train for a happy adjustment of whatever difference may heretofore have existed between the Rutland and Cheshire road.

The Courant informs us that cars are now running upon the Connecticut river railroad, as far as *South Deerfield.*

The Philadelphia Times tells us of a new embarassment upon railroads. A fortnight ago, Monday night, the trains on the Erie railroad were stopped by *grasshoppers*—there being such numbers of them on the track as to grease it as effectually as though lard had been placed on the rails.

Those grasshoppers must have been full grown, very plenty, and *well fed!*

The Lowell Advertiser says that the custom house at Boston, is now nearly completed. Not a splinter of wood is to be found in in the whole edifice; all is Quincy granite and iron, with marble floors, etc.—The roof and dome are formed of solid granite blocks overlapping one another.

It is about time this edifice was completed. Near a million of dollars has been appropriated for, and expended upon it!

Essex Railroad.—This new road will prove a profitable undertaking to those interested, we make no doubt. It will extend from Salem to North Andover—and we are happy to learn that its prospects towards a speedy completion are very promising.—It is but six or eight weeks since the preliminary arrangements were commenced, and the surveys made, and we learn that the first section is already contracted for. The work is under the charge of Jas. Hall, Esq., engineer, a gentleman favorably known in Massachusetts, for his enterprize and ability.—The Salem Register remarks that the contracts for completing the Essex railroad to its first station, at South Danvers, have been made on satisfactory terms. The materials for prosecuting the work, will be brought together this week, preparatory to an immediate commencement, and the cars will unquestionably be running before the expiration of the present year. After the completion of this section of the road, the next step will be to North Danvers.

A Valuable Discovery.—The Buffalo Commercial learns from a gentlemen direct from Wisconsin, river, that, in that immediate vicinity, and bordering upon the river, a few miles north of Helena, is *antimony ore* of the richest quality, and in great abundance.

"The ore" says the Commercial, "is as rich as the Galena or lead ore, and will yield about 85 per cent. pure antimony. It is found just where the broad field of copper ore stretching to the north and west crops out on the surface, and is as easily raised as the lead

ore. Furnaces for roasting the sulphur in the ore, leaving the article in the state known as the crude antimony of commerce, can be erected at an expense of about two hundred and fifty dollars. When thus prepared it is worth two or three times as much as lead.

"By a small expenditure the Fox river can be made navigable and connected with the Wisconsin so as to open an uninterrupted navigation from the lead mines of the Mississippi to Green Bay. Congress recently appropriated land for this purpose. We may therefore, confidently look to this source for a large addition to the commerce and trade of the lakes."

New Iron Works.—We find in the *Buffalo Advertiser*, an account of the opening of an extensive iron works, just commenced at Poland, on the Mahoning river, in Ohio. The proprietors are Messrs. Wilkeson, Wilkes & Co., and are gentlemen of enterprize and excellent business character. The Advertiser remarks:

"This is the *first* American furnace in which pig iron has been made with raw bituminous coal. This object was sought to be accomplished by Messrs. W., W. & Co., and they are entitled to the honor of being the only iron masters in the United States who have conducted this oft-tried and important experiment to a successful result. The iron made by them by this process is fully equal to the best Scotch pig, being made from as good ore and a better quality of coal and smelted in precisely the same manner. These works have been one year in construction, and are very extensive, being calculated to afford employment to two hundred men."

Cost of Telegraph.—The telegraphic line from Baltimore to Boston—it is estimated will be five hundred and fifteen miles in length. Its total cost will be about $25,000, or an average of about $230 per mile.

Boston Water Works.—Late Boston journals are filled with the most glowing accounts of the recent celebration which took place on the occasion of "breaking ground" upon the Long Pond aqueduct, by which means the city of notions is so be supplied with water. The ceremonies are represented to have been highly interesting. The mayor, city council and some hundreds of others were present. Any number of fine speeches and sentiments were given. Among the invited guests was ex-president Adams.

New Iron Furnace.—In a late number of the Miners' Journal, we find an account of an new and extensive iron furnace, now in process of erection, by Burd Patterson, Esq. The Journal gives some interesting particulars in relation to the enterprize, and enters upon the following calculation, touching the benefits which may accrue from its operations:

"This furnace," says the Journal, "will produce 80 tons of iron a week, or 4,000 tons a year, which manufactured into bar or railway iron, will give 3,200 tons, worth at $75 per ton, $240,000. Now all the coal used in manufacturing this iron, would at Pottsville be worth at $2 a ton, only $40,000, leaving a difference of $200,000 in favor of the establishment. But let us look at it in a more extended point of view; the coal produced this year will be about 1,400,000 tons, worth at $2 per ton, $2,800,000. Now eleven such establishments as the one spoken of above, would pay $2,200,000, a sum very near as great as the whole product of this region, while they would require to put them in operation, not a larger sum than $1,000,000."

Important to Travellers.—We see it asserted that some distinguished medical authority, informs the public that the great loss of life attendant upon steamboat explosions arises from the fact that people open their mouths and swallow the hot steam. The New York Tribune says this is very important information, and in addition to the usual labels posted about the different parts of steamboats, we shall hereafter see them conspicuously placed "keep your mouth shut when the boiler bursts."

An advertisement of the 'Central railroad," (Michigan,) appears in a late number of the Detroit Advertiser, announcing that the books for subscriptions to the capital stock of said company will be opened at the Michigan State bank on Monday, the 7th day of September next, at 10 o'clock a.m., and continue open for two days only. The subscriptions will be valid of course only in case the road shall be taken mainly by eastern capitalists. A vigorous effort is now making to accomplish the object, with hopes of success, and as subscriptions in Michigan will contribute greatly to that, it is hoped that they may be made with a liberal hand. Subscribers in this state will stand on the same level, and receive stock upon the same terms precisely as will the eastern capitalists. By order of the board of directors.

The Advertiser remarks that "if every citizen will do what he can, the aggregate may be large, and may be the means of promoting an object desired by all who regard the true interests of the state."

Extension of the Magnetic Telegraph.—A good deal of interest is being manifested throughout the *west*, in reference to the extension of the *magnetic telegraph*. We notice that an earnest movement has been made in Cincinnati, in reference to the subject—and the press in that city especially, as well also, as at Louisville, St. Louis, etc., is urgent in its appeals to the citizens, to take the matter into immediate consideration. The practical advantages of the telegraph are now well known, and its success in our Atlantic cities has stirred up the enterprize of our western men. We shall be proud to know (and the day we opine is not far distant when it will be accomplished,) that the space between the extreme east and west is "annihilated" by means of this important discovery. The U. S. Gazette contains the following in relation to the subject:

"A lively interest is felt by western merchants in this city, in the extension of the telegraph towards the Ohio and Mississippi. It is stated confidently, that any reasonable amount of funds necessary for the work can be readily obtained at Cincinnati, Louisville, and St. Louis, as well as at Pittsburg and Wheeling, which places some agents of the western telegraph company are now about to visit, to ascertain the amount of stock that will be taken. An efficient organization is completed here, to run the line of telegraph rapidly to the Ohio. Hugh Downing, Esq., one of the most efficient business men in Market street, known extensively westward, as well as in this city, is named as the president, and the company is styled the 'Atlantic and Ohio.' Most of the stock is said to be secured, and the balance will not long remain on hand. We should suppose that the usefulness and importance of this wonderful agent in the transaction of business would manifest themselves to every business man in the community, and induce them all to lend their aid in extending it to every place of importance in the Union."

Central Railroad.—A late number of the Harrisburgh Argus says that Horace Binney, Esq., has published a long and able opinion against the power of the authorities of Philadelphia, to subscribe to the stock of the Central railroad company.

"In a subsequent note, Mr. Binney gives a statement of a dicision of the supreme court of this state, which he conceives to be decisive of the question. The case was that of *McDermond and others* vs. *Kennedy* determined at Harrisburg in July, 1839, but not reported. The case was as follows: Kennedy, the plaintiff below, was an inhabitant of Newville, an incorporated town in Cumberland county, and the defendants were the burgesses and members of the council. The action was trespass for seizing the plaintiff's goods; and the defence was rested on the authority of a by-law, laying a tax to enable the corporation to fulfil a contract it had made with the Cumberland Valley railroad company, to contribute to the expense of shifting the location so as to bring the road nearer to the borough. The plaintiff recovered damages in the common pleas on the ground that the by-law was bad, and the judgment was affirmed in the supreme court, 'where the question stood on the abstract right of a municipal corporatton to tax the inhabitants for objects not immediately involved in the local government,' which right the court denied."

A Farmer's Notion of the Electric Telegraph.—A worthy old farmer who resides near the line of the York and North Midland railway, having been told a few days ago, that a communication had been made from York in two or three minutes, said, "Blabe, lad, it fair down caps me how t'feller rides upon them there wires when he carries t'news!"—*Railway Record.*

(Official) Reading Railroad.

A comparative statement of the business on the Philadelphia and Reading railroad for the week ending

	Aug. 24, 1844.	Aug. 23, 1845.	Aug. 22, 1846.
Travel.....	$2,303 65	$2,429 04	$3,354 83
Freight on goods.	727 68	1,109 50	2,729 84
Do. do. coal..	13,839 17	25,340 19	44,657 35
Miscell's receipts.	....	....	....
Transp. U.S. mail.	....	....	....
	$16,870 50	$28,878 73	$50,742 02
Coal trans., tons..	12,368	23,686	31,029

Utica and Schenectady.—Receipts from passengers in,

July, 1845, - - - - -	$42,011 92
" 1846, - - - - -	36,491 02
Deficiency, - - - -	$55,20 90

The amount of receipts for July, 1845, was equal to 14,004 through passengers at $3 each. Amount of receipts for July of 1846, is equal to 18·245 1-2 through passengers at $2 each. Increase of passengers 4·241 1-2. Passengers decrease of receipts $5,520 90.

Correspondents will oblige us by sending in their communications by Tuesday morning at latest.

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AMERICAN RAILROAD JOURNAL.

PUBLISHED BY D. K. MINOR, 23 Chambers street, N.Y.

Saturday, September 5, 1846.

Eight-Wheel Cars.

We see by a late English paper, that eight-wheel cars have been *invented* in England, by the well known and ingenious secretary of the Liverpool and Manchester. This is the only safe and convenient car for passengers, and is not the invention of Mr. Booth, but of Mr. Imlay, who constructed cars upon this principle some nine or ten years since.

We have seen no form of eight-wheel car which differed from the plan of Mr. Imlay, which was not in fact a retrograde from the original.

Valuable Works on Engineering for Sale.

The following works, belonging to the late Wm. R. Casey, have been deposited at this office for sale. It will be seen that they comprise most of the standard books. The reports and non-enumerated pamphlets are however among the best part of the collection, as many of them are not to be found or purchased at any price. So desirable an opportunity seldom offers for securing an excellent set of professional works.

LIST OF ENGINEERING BOOKS BE-longing to W. R. Casey, deceased.

1.—The Civil Engineer and Architect's Journal, quarto, vols. 1, 2, 4, 5 and 6, and nos. 79 to 81, and 84 to 95—remaining numbers expected from Montreal, Canada.
2.—Railroad Journal, quarto, vols. 1, 2, 3; octavo, vols. 7, 8, 9, 10, 11, 12, 13, 14, 15, 16 and 17; octavo vols. 18, and loose nos. to date; being nearly a complete set.
3.—Reports and Documents, 6 or 7 octavo vols.
4.—Tredgold's Carpentry, quarto, with plates.
5.—Barlow on Strength and Stress of Timber, octavo, with plates.
6.—Turnbull on Iron, octavo.
7.—Nicholson's Masonry and Stone Cutting, octavo, with plates.
8.—Tredgold's Tracts on Hydraulics, octavo, with plates.
9.—Gregory's Mathematics for Practical Men, octavo, with plates.
10.—Wood on Railroads, octavo.
11.—Pambour on Locomotives, octavo, with plates, (Philadelphia edition.)
12.—Lecount on Railroads, octavo, with plates.
13.—Smeaton's Tracts, 1796, octavo, with plates.
14.—Seward's New London Bridge, octavo, with plates.
15.—Storrow's Treatise on Water Works, duodecimo.
16.—Report on Atmospheric Railway, etc., quarto, with plates.
17.—Gallier's Price Book and Estimator, octavo.
18.—Public Works of Great Britain, folio, $25.
19.—Weale's Bridges, new and valuable, $23.

☞ The above books will be sold by the single volume, if desired, and forwarded by express, or otherwise, as directed by the purchaser.

Please address E. HEDGE, *Railroad Journal Office*, 23 Chambers street, New York.

We would call the attention of Railroad Companies to the following Advertisement and testimonials. Orders for Ballard's Jack Screw through this office solicited, and will be attended to with punctuality.

BALLARD'S NEWLY IMproved Patent Jack Screw.

The advantages of this Jack Screw for Stonequarries, Railroads, Steam Boiler Builders, and other purposes, are superior to any other machine.

The improvement consists in being able to use either end of the Screw, as occasion requires.

It is capable of raising the heaviest Locomotive with ease, being portable, strong and powerful, and not likely to get out of order.

Many Railroad Companies and Boiler makers have them in use, by whom they are highly recommended.

JACK SCREWS of various kinds, sizes, power and price, constantly on hand at the manufactory, No. 7 Eldridge St., near Division.

4t35

We the undersigned have used Ballard's Jack Screw on our Railroad and for other purposes, and we consider them superior to any other machine that we have had.

GEO. B. FISK,
Prest. Long Island Railroad Co.
TIMOTHY L. SMITH,
Agent New Jersey Railroad Co.
H. R. DUNHAM & CO.,
Locomotive and Steam Engine Builders.
GEO. VAIL & CO.,
Speedwell Iron Works, Morristown, N. J.

OFFICE NEW YORK AND ERIE RAILROAD CO., 45 Wall Street, New York, Aug. 28, 1846.

NOTICE IS HEREBY GIVEN, THAT PROposals will be received until the 13th day of October next, for the Grading, Masonry and Bridging required to complete that portion of the New York and Erie Railroad between a point three miles east of Port Jervis in Orange county, and the village of Binghampton in Broome county, a distance of about 133 miles.

Maps and profiles, estimates and specifications, will be found after the 10th of September in the office of the company, at New York city, where every necessary information will be given. The engineers on the line of the road will also furnish all requisite facilities to contractors desirous of examining the route.

The line will be divided into sections of convenient length for construction, and proposals in writing will be received at the New York office for the whole or any part of the work. By order of the President and Directors.

T. S. BROWN, Chief Engineer.

ST. LAWRENCE AND ATLANTIC RAILroad.—Notice to Contractors.—Proposals will be received at the office of ths St. Lawrence and Atlantic Railroad Company, No. 18 Little James Street, in the City of Montreal, until the 24th of September next, for the Grading, Masonry and Bridging, of a division of the Road, extending from the St. Lawrence River to the Village of St. Hyacinthe, a distance of about 30 miles.

Plans, Profiles and Specifications will be exhibited, and the requisite information given at the Engineer's Rooms in the Company's Offices, at Montreal, on or after the 15th of said month.

Persons offering to contract for the work, or any part of it, will be required to accompany their proposals with satisfactory references.

By order of the Board,
THOMAS STEERS, *Secretary.*
Office of the St. Lawrence and Atlantic R. R. Co., Montreal, 25th August, 1846.

NEW YORK AND ERIE RAILROAD CO. The stockholders of the New York and Erie Railroad Company are hereby notified that an instalment of Five Dollars per share on all shares on which the payments already made do not exceed 20 dollars, is required to be paid, (agreeable to the terms of subscription) at the office of the company, No. 45 Wall street, on or before the 1st day of October next. By order of the Board of Directors.

NATHANIEL MARSH, Sec'y.
New York, August 31st, 1846.

Accommodation of Passengers—Cars.

In the infancy of the railway system, alterations and improvements succeeded each other so rapidly, that very many inconveniences were patiently endured, as being compensated by the increase of facility in travel. The attention of the managers of a railroad was directed mainly to the engines—it was sufficient that passengers were transported at much higher speed than in former times, and by other modes of travel.

This state of things exists no longer—and at present many things in connection with a railroad have become matters of first rate importance, although not belonging to the mere machinery. None of these are more worthy of attention than those which belong to the comfort, convenience and safety of passengers. Experience has shown that small matters have a great influence upon the business of a road, and that passengers will not use a railroad merely because it is a railroad, seeking in this, as in all other things, their convenience and comfort. The accommodation of passengers is therefore a question directly concerning the profits of the railway—and although the argument to the pocket has done much to improve matters, there is yet room for further improvement. We propose from time to time examining into the various details of railway management, which relate more directly to the accommodation of passengers. In the first place we shall speak of the cars.

Passenger cars should be made sufficiently strong to resist all the ordinary force to which they may be exposed, and should never be used when out of this condition.—That human life should be risked by exposure to the violent action of a powerful engine, in an unsafe vehicle, is to the mind of even the most mercenary, so horrible, that we should suppose at first sight that no one would directly or indirectly be concerned in producing such a fearful hazard. It is notorious, however, that such risks are often produced, sometimes knowingly and sometimes ignorantly.

We have seen, and to our risk have travelled in, cars which squeaked and groaned as if complaining that their aged and jaded limbs should be compelled to rattle along at the rate of twenty or thirty miles an hour with a grievously heavy load. Generally, we have found upon inquiry that the company have felt themselves too poor to use better. If this argument were a good one, we might reply that the company was then too poor to undertake the transportation of passengers. Sometimes we have found such cars used where this excuse would not and could not be made. In such cases we can imagine but one instance in which any palliation could be offered, and this we are pursuaded does often occur. From accident or other emergency, when the ordinary good ones are insufficient in number, or not at hand, it often happens that some old affair is taken out of the depot hospital and put upon the road. Circumstances may very urgently call for such a procedure, but it must be remembered that the risk is fearful, and the consequences in a single instance, may be such as would have rendered it preferable to have encountered all the disadvantages from uniformly

adopting the more cautious course. No temptation of profit, or even the desire to oblige, should lead to the peril of human life.

Where even this excuse cannot be offered, what language is strong enough to express the wickedness of the practice. Unfortunately, however, the danger is concealed from most eyes, paint and varnish on the car, or ignorance in the observer in most cases prevent the hazard from being *visible*. In this, as in the parallel instance of steamboats with machinery in an imperfect or dangerous state, there is hardly any remedy, and when an accident occurs, the usual verdict is, "no blame to be attached to any one." There *is* blame to be attached to those who, while they share the profit, should share the responsibility—we mean the stockholders and their delegates, the directors. Pains are taken to secure profit to the concern—but who looks after the safety of the passengers? This to be sure, and we are glad that we can say it, is not always the case; but who can deny that it does occur, and one instance is one to many.

Where accidents do happen, and it is evident that passengers have been exposed needlessly to danger, it is the duty of every good citizen to use every exertion to bring the guilty to punishment.

Railroad cars are generally, when new, made of sufficient strength, but it must be recollected that they are in ordinary use exposed to severe treatment, and a provision against the greatest strain to which they are subjected must be made in the outset. We have often thought that, if less money were expended upon the mere ornament of cars, and more upon their strength and comfortableness, it would be better for all parties.

Most railroad accidents have had their origin in deficiency of strength in the cars. The breaking of axles and wheels are notorious, but there is another source of danger in weak or badly constructed cars which few regard. We contend that the action of such cars upon the train and the track is pre-eminently productive of mischief. Every departure from the proper condition of a car, causes more or less interference with the uniformity of the motion, and creates new resistances, great where they are least able to be borne. Few seem to have taken this view of the subject, but we are satisfied that it is correct, and moreover confirmed by experience. The strain upon an axle or a wheel has a direct reference to the strength of the car body—the whole of these effect the motion, this acts upon the track, which in its turn re-acts upon the train. It is thus that upon a railroad every irregularity is magnified and propogated with wonderful rapidity.

There are many very excellent contrivances, which tend to promote the strength of cars and their parts, and the safety of passengers. These have been noticed in the Journal from time to time, and need not be repeated in this place.

Mississippi and Toledo Railroad Meeting.

Agreeable to public notice the meeting was organized at the appointed place on the 16th inst., by the appointment of Alphonzo Wilson, Esq., president, and E. F. Dibble and S. P. Hart, Esqrs., secretaries.

Mr. Delano stated the object of the meeting to be the calling of citizens together to ascertain what amount of stock was likely to be subscribed in Penn township, to aid the superstructure of the Mississippi and Toledo railroad, and to report the same to E. Whittlesey, Esq., of Toledo.

Dr. Eddy being called upon, moved that the gentlemen present be presented with the subscription list and invited to subscribe.

John Niles, Esq., responded to the call, in a few, but emphatic words, declaring himself "a laboring man and a friend to the road," stepped forward and signed for eight shares. He was afterwards followed by several others of 6 and 8 shares each.

Mr. Delamater rose to explain some points of difference which appeared to exist between the statements he had made to the farmers and those of A Delano, Esq., which, having been explained, he continued in a warm and animated speech, full of truth and interest to the farmer, to show how a market might be obtained for our coarse grains, and how the farmers of St. Joseph co., might compete with those of Ohio in an eastern market

Mr. Delano rose again to give some statistical calculations, full of interest to the farmer and consumer. He exhibited an extract from the report of the county assessor to show the amount of produce raised in St. Josephr county, as follows:

400,000 bush. wheat, equal to 80,000 bbls. flour; 180,000 bush. oats; 400,000 bush. corn; 35,000 lbs. wool.

An amount which far exceeds the calculation of our best informed citizens, and which was but a type of the other counties along the route of the proposed road. In addition, he presented the following calculations and estimates: 100 tons of merchandize annually brought from New York into the county, amounting to $100,000. The risk of lake navigation makes it necessary to insure its safe transportation which at an average price is 1½ per cent., making the sum paid for insurance $1,500.

Owing to the limited time of getting produce to market, and the time required to get merchandize from New York, by reason of the dangers and close of lake navigation, from 20th October to about the 1st of June, merchants are compelled to buy at long time, at higher prices in New York, and pay a balance of interest against them; or say one-half of the amount purchased at 7 per cent., for 6 months, $1,750.

Freight on 100 tons merchandize to St. Josephs at the low rate of 65 cts. per 100 pounds, and 20 cts. river freight from St. Josephs to Mishawaka, makes 82 cts. per 100 from New York. Allowing freight to be 50 cts. per 100 to Toledo and thence by railroad to Mishawaka, 15 cts., which is a high estimate from the latter place, makes 65 cts. to Mishawaka from New York instead of 82 cts. —difference in favor of railroad, besides time, risk and dangers of upper lake navigation $4,900.

Wheat is ordinarily worth at Toledo 75 cts., when it is worth 50 cts. here. It can be carried there in 24 hours by the railroad at 10 cts. per bushel, making it worth here 65 cts. instead of 50 cts. Difference between 50 cts. and 65 cts. on 400,000 bushels, $60,000, and making it worth at Toledo nearly a thousand miles nearer New York, at least as much as it is at St. Josephs, saving the risk, insurance and delays of navigation of lakes Michigan and Huron—making an aggregate of $67,250.

Nearly enough to grade the road and lay the superstructure through the county, which is actually paid out or lost to this county every year, and who pays or loses this large sum of money.

The merchants add the insurance, interest and transportation to the per centage on his goods, and he is compelled to do it to save himself. The forwarding merchants on the river and the lakes must be paid for their services. It is right that they should be, and these incidental expenses are to be deducted then, from the price of the grain, flour or pork transported. Who, then, but the consumer of the goods:—who but the cultivator of the produce, the farmer, does this sum come out of?

He then went on to show why our farmers could not send coarse grains to market, and why it lay a drug upon their hands. Simply because it could not reach a market in the fall or winter, and if shipped in the spring it is liable to spoil in the hold of a vessel from the length of time required to go around the lakes. Mr. D. presented many other facts: a map of the lakes, with the route of the proposed road prepared for the occasion.—*Mishawaka Bee.*

The following statistics were prepared by Hon. E. Whittlesy and H. D. Mason—bearing on the contemplated railroad, and submitted to the railroad convention at South Bend.

"The undersigned having been appointed by the committee on publication to compile such statistical statements as would show to the company the importance of the contemplated railroad from Toledo to the west line of Indiana or Chicago, and the certainty of profits to the stockholders; have attended to the duty assigned, and present the following general statements.

"A report which is soon expected from Mr. Baldwin, of Boston, who made a reconnoisance of the route last fall, will more fully show in detail the proceeds of the country and the number of passengers which will be transported on the road when constructed. When this link of the Buffalo and Mississippi railroad will be completed, the other portion of it will very soon be in operation; such is the location of this main trunk that the improvements in Indiana and Ohio, which give to the produce and travel of the country a northern direction, will be tributary to it and enhance its profits beyond the anticipations of its most ardent friends. The most rigid examinations should be invited, and the strictest comparisons with other routes made. We regret the time limited was not sufficient for doing the most ample justice to the subject.

I.—A.

Distance from Buffalo to Chicago, through Canada, via Detroit.

Distance from Buffalo to Detroit		280
"	Detroit to Kalamazoo	147
"	Kalamazoo to the mouth of St. Joseph river	55
"	Mouth of St. Joseph river to Chicago	60
Total distance—miles		542

I.—B.

Distance from Buffalo to Kalamazoo, through Canada		427
"	Kalamazoo to New Buffalo direct.	66
"	New Buffalo to Michigan city	12
"	Michigan city to Chicago	50
Total distance—miles		555

I.—C.

Distance from Buffalo to Toledo, via shore of lake Erie		297
"	Toledo to Michigan city	186
"	Michigan city to Chicago	50
Total distance—miles		533

II.—A.

The time it will take for each route from Chicago to Buffalo, at 40 miles an hour.

From Chicago to mouth of St. Joseph river by boat..... 5 hours.
" St. Joseph to Buffalo, by railroad, 482 miles.....12 "
Add for crossing at Buffalo..... 1 "

Total time.....18 hours.

II.—B.

From Chicago via Michigan city and New Buffalo, through Canada, 555 miles. 14 hours.
Add time for crossing at Buffalo..... 1 "

15 hours.

II.—C.

From Chicago to Buffalo via Toledo and south shore of lake Erie, 533 miles, in.....13½ "

III.—A.

Cost of railroad from Detroit to Chicago Central railroad, 147 miles long.....$2,000,000 00
To lay T rail 56 lbs. to the yard, 95 tons and 56 lbs. to the mile, $93 50 per ton, Baldwin's estimate, inclusive of spikes and bolts..... 1,477,255 92
From present terminus of road to Chicago via New Buffalo, 128 miles, as per Baldwin's estimate, will cost..... 2,037,195 52

Total cost.....$5,514,451 44

It will probably take the value of the light iron, on the road at this time, to make the alterations and fit the bed of the Central railroad for the T rail.

Cost of Making Railroad by Toledo Route.

From Toledo to Chicago, 236 miles new road, estimated same as above. $3,537,109 00

Being less than Detroit route.....$1,977,342 44

IV.—A.

Business and Travel between Buffalo and Toledo, on the south shore of Lake Erie, for a Railroad, when made.

1840—Population of Chataugue county... 47,975
Western district of Pennsylvania had 815,289—allow for road..... 400,000
State of Ohio, at this time.....2,000,000
South shore of lake Erie, by canals and railroads..... 450,000

Population to furnish way travel.....2,897,975

Internal Improvements that will be connected with this road when made.

1. Erie railroad—southern tier of counties of N.Y.
2. Erie and Beaver canal, Pennsylvania.
3. Ohio canal and tributaries.....334
4. Sandusky and Mansfield railroads..... 70
5. Lake Erie and Mad river railroad.....220
6. Wabash and Erie canal to Covington.....275
7. Miami canal to Cincinnati.....247

IV.—B.

NOTE. What the route through Canada will furnish as way business and travel, when compared with the foregoing, we are not able to say, but in our opinion it will be very small.

The entire population in Upper Canada in 1843, was.....506,644

V.

The counties included within twenty miles of the line of the projected railroad from Toledo to Chicago, had in 1840, a population of..... 89,970
At this time by enumeration of the state of Indiana, and the census of Michigan, is..135,000
Square miles 9,000, containing 6,144,000 acres, having at this time a population of 14 to the square mile.
Bushels of wheat raised in the above district in 1845.....3,740,936
Corn.....4,430,000
The state of Massachusetts has 7,800 square miles, equal to.....4,992,000 acres.

This route from Toledo to Chicago will secure the business and travel twenty miles each side of the road beyond competition.

Ohio, Indiana, Illinois, Michigan, Wisconsin and Iowa in 1810 had a population of 272,324
1820 802,719
1830 1,470,018
1840 2,967,840

The increase from 1810 to 1840 was over 990 per cent., equal to 33 per cent. per annum on 272,324, and 12½ per annum, computing upon the population of each decimal term.

Contrast the above with Maine, New Hampshire, Vermont, Massachusetts, Rhode Island, Connecticut, New York, New Jersey and Pennsylvania,

The population of which in 1810 was....2,486,586
" " " 1820 " 4,359,651
" " " 1830 " 5,542,381
" " " 1840 " 6,761,082

The average increase in these states for the thirty years was 2½ per cent. per annum, computing upon the population of each decimal term, and computing upon the population of 1810 for 30 years, the increase was 94 per cent, a fraction over 3 per cent. per annum.

AGAIN: Missouri, Indiana, Illinois, Michigan, Iowa and Wisconsin had a population in
1830, of..... 672,579
1840, of.....1,832,072

The increase for the ten years was 170½ per cent. equal to 17 per cent. per annum, and the population only 3½ to the square mile. The same rate of increase to 1850 will swell the population to 4,992,376, and there then will be less than ten persons to the square mile.

The wealth of the country increases faster than the population, as appears by the following table: New Hampshire, Massachusetts, Rhode Island, Connecticut, Vermont, New York, Delaware, Maryland and North Carolina valuation of lands in
1798 .....$559,233,067
1813 802,870,909

In fifteen years the increase was over 123 per cent. equal to 82 per cent. for ten years. The increase of the population in these from 1800 to 1810 was 30 per cent.

Virginia in 1798 valued at.....$71,e25,127
" 1813 " 211,930,538

In forty-one years the increase was 197½ per cent., the increase of population from 1800 to 1840 was less than 41 per cent.

The business of the western country increases faster than the population, as appears by the following: the earnings of the steamboats on lake Erie, Huron and Michigan, in
1833, amounted to.....$229,212
1841, " 767,860
equal to 235 per cent. for the period of eight years, averaging 29½ per cent per annum.

The increase in the population in the north-western states and territories from 1830 to 1840 was a fraction over ten per cent.

AGAIN: The earnings of all the boats and propellers for the business alone, to and from lake Michigan with lake Erie, in
1841, was.....$226,342
1845, " 448,491

Increase in four years as above, 115 per cent., being 28½ per cent. per annum.

It will be recollected that the price of passage from Buffalo to Chicago was, in
1841, cabin, $20.....deck, $12
1845, " 12..... " 6

The number of passengers taken from lake Erie to ports on lake Michigan, and from ports on lake Michigan to ports on lake Erie, in 1845, was 57,993.

And the receipts for freight and passengers, for that portion of the business, was $487,491.

We sought the most correct sources of information, and believe the statements will be found to be correct, but if any error shall be detected we shall be prompt to correct it. Under IV.—A., and head of "Internal improvements that will be connected with this road when made," you will see the 1st and 2d heads of distances are not filled up. The 3d head, "Ohio canal and tributaries," does not include the Pennsylvania and Mahoning cross cut canal, which connects the commerce of the Ohio with the commerce of the lake at Akron; this canal with its slack water is about 90 miles.

Most sincerely and respectfully yours
H. D. MASON,
ELISHA WHITTLESEY.

The Anthracite Coal Trade.

Continued from page 540.

First, or South Anthracite Region.—Lehigh District.—That part of the Lehigh coal and navigation company's lands which contain the coal veins, is bounded on the south by the continuation of the 'sharp,' locally called 'Mauch Chunk mountain,' and on the north by the 'Locust mountain,' the continuation of 'Mine hill.'

At Tamaqua, the western extremity of the Lehigh estate, and about fourteen miles from the Lehigh river, the summits of these two mountains are one and a quarter miles apart, while near the river Lehigh, they join and terminate in a point, a short distance northward from the town of Mauch Chunk.

The mines now in work on the company's estate, are the 'Summit Hill' or 'Old Mine,' the 'Room Run' and the 'Tamaqua.'

The Summit Hill or Old Mine is an immense coal quarry, its extreme length east and west, being upwards of 3,000 feet, and extreme width north and south, 1,500 feet, it covers a surface of more than 30 acres. It is situated 9 miles from the Lehigh and about 5 miles west from Room Run. It is 760 feet above the Lehigh river, at Mauch Chunk.—The coal strata of this mine forms a saddle and is from 50 to 60 feet in thickness. It is worked by taking off the super-incumbent strata, which consists chiefly of alluvial.—The coal is then exposed and quarried in open day. Upwards of one million of tons of coal have been sent to market from this mine.

There are two railroads from the mine to the Lehigh navigation, the one a gravity railroad by which the loaded cars descend to the navigation at Mauch Chunk, the other called the 'Back Track,' upon which the empty cars return to the mine.

Another quarry or coal mine, called the 'New Mine,' lies on the east of the 'Old Mine,' and nearer to the Sharp mountain.—This is of much smaller area than the 'Old Mine.'

The Sharp mountain, which in its course from Tamaqua to a short distance east of the 'New Mine' on the Summit hill, a distance of five miles is very regular, at this place it is broken, and turns toward the north. At about 2,000 feet northward from its broken end, its prolongation is again continued eastward, until it meets and joins the Locust mountain, terminating in the point before named.* The latter termination of the mountain is locally called 'Mt. Pisgah.' The Summit Hill 'Old Mine,' lies in a direct line, with the crest of Mount Pisgah.

I shall not venture in this place to give an opinion as to the effect produced by this change in the course of the mountain on the coal strata, for the reason I think I may be able to explain more clearly and satisfactorily, this phenomenon, when I give the description of the coal basin, as it appears at Tamaqua, where it is cut through by the stream of the little

* A similar change in the course of the Sharp mountain appears opposite Middleport, which is of greater magnitude than that found on the Lehigh estate; and which will be hereafter noticed. See the course of this mountain, marked on the small map of the region published by me.

Schuylkill, at a right angle to the range of the stratification, and affords the only perfect section in the coal region.

The Room Run coal mines are situated in the gap of the Locust mountain, made by Room Run, a branch of Nesquehoning.—They are about 5 miles westward from the Lehigh, and the coal is transported upon a gravity railroad to the Lehigh navigation, a short distance above Mauch Chunk. In passing through the gap, and entering the coal basin, the following coal veins are developed.

1st coal vein, 5 feet thick. Two drifts or gangways have been driven in this vein westward.

2d vein of 3½ feet in thickness, cut in the tunnel now being driven.

3d coal vein 28 feet in thickness. Three drifts have been driven in this vein westward and one eastward.

4th coal vein 'Rowland,' 6 feet thick, considerably worked.

5th and 6th two small coal veins.

7th coal vein 28 feet thick.

8th coal vein varying in thickness from 25 to 40 feet, called the 39 foot vein, worked a long distance westward.

9th coal vein 'Barber,' 12 feet thick, worked eastward.

10th coal vein 5 feet thick.

11th coal vein 12 feet thick, worked eastward.

All the above veins dip south; the last two are supposed to form a basin, and in a short distance rise to the surface making a north dip. No. 9, or 'Barber,' lies underneath the above, also forming a north and south dip. Nos. 7 and 8, basins underneath the former, and rises to the south forming one vein of 50 feet in thickness—this 50 feet vein saddles over, and then dips south, and is supposed to rise again, forming a north dip in Mount Pisgah. The coal veins which overlie and underlie the 50 feet vein, make the same curues (excepting that the continuity, or saddle of the overlaying veins is broken,) and rise to the surface on Mount Pisgah, thus forming two basins of synclinal axis and one saddle or anticlinal axis. The coal basin here is about 1,800 feet wide. The Tamaqua mine consists of the workings in one of the coal veins of the Sharp mountain. This vein has been worked into, eastward from the gap a considerable distance, it produces coal of fine quality, and is free from any serious fault. Besides this, there are a number of other coal veins in the Sharp mountain range, which this part of the Lehigh estate command. These will be enumerated and treated upon, in the description of the Litle Schuylkill comp'y's estate at Tamaqua.

The Lehigh coal and navigation company's estate embraces about 13 miles of the Sharp mountain range of coal veins. Five miles of which, the western part, is most valuable for mining. The crests of these mountains are on an average about 500 feet above the level of the valleys. The company has on their coal estate from 35 to 40 miles of railroads in operation, with steam engine attached to the inclined planes, coal breakers, etc.

The Lehigh company is making extensive preparations to open and work other parts of its estate. Railroads and inclined planes have been surveyed, and are under construction, and seven or eight different tunnels to the coal veins have been laid out and commenced. One of considerable extent has been driven across the strata in Room Run gap, for the purpose of gaining workable breasts of coal below those now in operation.

Buck Mountain Coal Mine.—The geological situation of this mine, has been represented by some as belonging to, and forming the eastern extremity of the Hazleton coal basin, by others it is said to be in Dreek Creek coal basin, and some have pronounced it to be an extension of the Beaver Meadow coal field. These conflicting statements as regards the position of the mine, and have a desire to be acquainted with its geological locality, for the purpose of making out a map I am now preparing, the true place of the different collieries in that part of our anthracite formations with the boundaries of the various coal basins, led me to make a minute examination of the direction and dip of the strata of the mountains and valleys in its vicinity. These examinations, I am pleased to state, have resulted in some interesting facts, which tend to show the true situation of the Buck Mountain company's coal mine, as regards its geological position with the different coal basins before named.

These facts, (recently collected) I respectfully submit.

'Buck Mountain,' the name of the mine, is not the name by which the mountain is known, on which the company's works are located. The Buck mountain is nearly three miles north from the mine, with the vallies of Black creek and Sandy creek intervening.

The local name of the mountain on which the mine is situated is Pismire Ridge, and is a continuation of the hill that lies between the Beaver Meadow and Hazleton coal vallies. In the origin of the works the owners did not approve of the appellation 'Pismire Ridge Mine," they therefore called it Buck Mountain, the name by which it is now known.

Before I proceed to give the particulars of my examinations, it may be well to state that the country north and south of the Buck Mountain coal mine, is composed of alternate hills and narrow vallies, ranging parallel to each other in nearly an east and west direction, and extending several miles in length.—Streams of water run through to the Lehigh on the east, and the Susquehanna on the west the head quarters of which rise on the table land between the hills, and in consequence of the vallies being narrow the table land is of small area. The head quarters of the streams that rise between the northern mountain, are a shorter distance from the Lehigh river, than those that rise between the southern mountains, consequently the table land is found in a northeast and southwest direction.

A better idea of the topographical and geological character of the country may be shown by taking a well known starting point, say from the Summit Hill coal mine on the Lehigh company's estate, and proceeding from thence in a northern direction, crossing the hills and valleys, giving their local name, with a brief description of each as they come in order.

From the Summit Hill coal mine we, (supposing the reader in company,) cross the coal valley to Locust mountain the north boundary of the Lehigh district of the South Anthracite Region.* After passing the conglomerate, the rock that underlies the coal strata, and crops out in immense masses on the summit of this mountain, we descend into the Nesquehoning valley, a red shale formation through which the Nesquehoning creek flows to the Lehigh river. The head waters of the Nesquehoning rise about four miles to the west, and about one mile north from where the Locust creek (which rises about nine miles further west in the prolongation of this valley,) joins the Little Schuylkill, and passes south through the gaps of Locust and Sharp mountains at Tamaqua, (see my small map of the South Anthracite Region.)

Leaving Nesquehoning we ascend Broad mountain, and pass over the eastern extremity of the Mahoning, or Middle Anthracite Region, and then descend into the Quakake valley.

The extension of the Lehigh and Susquehanna, or Cattawissa railroad is through the the Nesquehoning valley, it connects with the Beaver Meadow railroad five miles west from the Lehigh.

On the high ground about six miles to the west and where the road leading from Tamaqua to Hazleton and Wilkesbarre passes, are the head quarters of the Quakake which runs east to the Lehigh, the head waters of south branch of Cattawissa creek, that runs west to the Susquehanna, and the head waters of the Little Schuylkill, which runs south, and joins the Locust creek before spoken of.

Ascending the Spring mountain, north of the Quakake, and arriving at its top, we perceive the range of conglomerate rock dipping to the north. This rock forms the bed of the Beaver Meadow coal veins, and the Spring mountain is the southern boundary of this celebrated coal basin.† The extension of this mountain eastward to the Lehigh, is south of the Buck Mountain coal mines two miles.—Westward it extends, and bounds on the south of the Summit company's coal lands, the coal estates of the Northampton and Luzerne company, and passes through the coal estate of John Hare Powel, Esq., and from thence west until its continuation is disturbed by the waters of the Cattawissa.

In the valley north of the Spring mountain and about fourteen miles west from the Lehigh, is the summit dividing the waters of Beaver creek from those of the main branch of Cattawissa. Beaver creek runs through the valley eastward from its head, seven miles where it joins Hazle creek and thence passes through the gap in Spring mountain to the

* See a former communication descriptive of the Lehigh estate.

† It is my intention to give a description of the Beaver Meadow coal basin, which from the contorted nature of the coal strata, may prove an interesting communication hereafter.

Lehigh. The confluence of Beaver and Hazle creeks with the Quakake, is at the connection of the Cattawissa extension with the Beaver Meadow railroad. In the continuation of this valley eastward, the Laurel creek rises, and runs through it to the Lehigh.—The main branch of the Cattawissa runs west.

W. F. ROBERTS,
Engineer of Mines, Phila.

P. S—Having an unexpected call to Schuylkill county on professional business, is the reason the above communication is so absuptly broken off. Next week I hope to continue it.

The Clergy and Railways.—It is curious to notice the gradual approximation to each other, between the ministers of public instruction and the managers of public works. Oxford and the clergy were not long since the determined opponents of railways, and are now converted into warm friends. Not long ago we had Oxford, through Dr. Buckland, welcoming those beings which "make rough places smooth, and the high places plain," and which herald the progress of civilization and truth. At the recent opening of the Leeds and Bradford, recorded in our last, (see *ante.* p. 261,) the very estimable and energetic vicar of Bradford, Dr. Scoresby, came forward as a guest of Mr. Hudson, to bear testimony to the value of railway communication. He took occasion to refer to the importance of the event they had that day met to celebrate. He also referred to the wonderful achievements of mechanical science, which in its application to railways had accomplished an almost annihilation of distance, and by this and other means had contributed inconceivable advantages to this country, in the enlargement of that commerce and the stimulation of that enterprize which have enabled us to maintain our pre-eminence in the scale of nations. He urged that it was needful for this country to go on; it was needful that our men of enterprize, our manufacturers, and our railway directors should still keep a-head of the world. Every essential part of machinery used in this country, he believed, was of English invention; but he called upon them to contemplate what would have been our railways and our mills and our factories, if there had not been a Marquis of Worcester, a Savory and a Newcomen to suggest, and a Watt to carry out that mighty principle of steam which enabled the machinery of this country to do the work of the whole world. It had been estimated by M. Dupin, that it required 100,000 men for twenty years to raise the stone of the great Egyptian pyramid of Cheops; and the same author tells us that the steam engines of Great Britain would do the whole work in thirteen hours. After some further remarks illustrative of the mighty power of machinery, he concluded by expressing his hope that the connection that had this day been formed between Leeds and Bradford would not, poetically speaking, be a bond of silken ties, but one of a much more substantial kind to mercantile men—an iron chain of union between these great manufacturing towns. There was a moral as well as a social benefit produced by an economical, rapid and easy intercourse between one town and another. The face of man brought into contact with the face of man was beneficial to man, and he trusted that the result of the improved mode of communication between Leeds and Bradford, though still apparently separated by distance would be a close alliance in reciprocity of interest, and in every department of social life and of commercial intercourse.—*Railway Chronicle.*

School Trips.—The London and Birmingham recently enabled the Rev. Mr. G. Weight of the Wolverton station schools, to give a trip to his scholars. 278 children and about 120 adults, together with the station music band, proceeded to Tring, and thence to the village of Albury. On returning to Tring the children feasted on plum cake, oranges, and milk. All was provided at the cost of the company.—*Railway Chronicle.*

SPRING STEEL FOR LOCOMOTIVES, Tenders and Cars. The Subscriber is engagep in manufacturing Spring Steel from 1¼ to 6 inches in width, and of any thickness required: large quantities are yearly furnished for railroad purposes, and wherever used, its quality has been approved of. The establishment being large, can execute orders with great promptitude, at reasonable prices, and the quality warranted. Address

JOAN F. WINSLOW, *Agent,*
1y Albany Iron and Nail Works,

RAILROAD SCALES.—THE ATTENTION of Railroad Companies is particularly requested to Ellicotts' Scales, made for weighing loaded cars in trains, or singly, they have been the inventors, and the first to make platform scales in the United States; supposing that an experience of 20 years has given a knowledge and superior advantage in the business.

The levers of our scales are made of wrought iron, all the bearers and fulcrums are made of the best cast steel, laid on blocks of granite, extending across the pit, the upper part of the scale only being made of wood. E. Ellicott has made the largest Railroad Scale in the world, its extreme length was one hundred and twenty feet, capable of weighing ten loaded cars at a single draft. It was put on the Mine Hill and Schuylkill Haven Railroad.

We are prepared to make scales of any size to weigh from five pounds to two hundred tons.

ELLICOTT & ABBOTT.
Factory, 9th street, near Coates, cor. Melon st.
Office, No. 3 North 5th street,
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THE SUBSCRIBERS, AGENTS FOR the sale of
Codorus,
Glendon,
Spring Mill and
Valley,
} Pig Iron.

Have now a supply, and respectfully solicit the patronage of persons engaged in the making of Machinery, for which purpose the above makes of Pig Iron are particularly adapted.

They are also sole Agents for Watson's celebrated Fire Bricks and prepared Kaolin or Fire Clay, orders for which are promptly supplied.

SAM'L. KIMBER, & CO.,
59 North Wharves,
Jan. 14, 1846. [1y4] *Philadelphia, Pa.*

THE SUBSCRIBER IS PREPARED TO execute at the Trenton Iron Works, orders for Railroad Iron of any required pattern, and warranted equal in every respect in point of quality to the best American or imported Rails. Also on hand and made to order, Bar Iron, Braziers' and Wire Rods, etc., etc.

PETER COOPER, 17 Burling Slip.
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PATENT INDESTRUCTIBLE WATER Pipes. The subscribers continue to manufacture the above PIPES, of all the sizes and strength required for City or Country use, and would invite individuals or companies to examine its merits.—This pipe, unlike cast iron and lead, imparts neither color, oxide or taste, being formed of strongly riveted sheet iron, and evenly lined on the inside with hydraulic cement. While in the process of laying, it has a thick covering externally of the same—thus forming nature's own conduit of stone. The iron being thoroughly enclosed on both sides with cement, precludes the possibility of rust or decay, and renders the pipe truly *indestructible.* The prices are less than those of iron or lead. We also manufacture Basons and D. Traps, for Water Closets, on a new principle, which we wish the public to examine at 112 Fulton street, New York.

28tf J. BALL & CO.

MACHINE WORKS OF ROGERS, Ketchum & Grosvenor, Patterson, N. J. The undersigned receive orders for the following articles, manufactured by them of the most superior description in every particular. Their works beingextensive and the number of hands employed beinglarge, they are enabled to execute both large and small orders with promptness and despatch.

Railroad Work.

Locomotive steam engines and tenders; Driving and other locomotive wheels, axles, springs & flange tires; car wheels of cast iron, from a variety of patterns, and chills; car wheels of cast iron with wrought tires; axles of best American refined iron; springs; boxes and bolts for cars.

Cotton, Wool and Flax Machinery

of all descriptions and of the most improved patterns, style and workmanship.

Mill gearing and Millwright work generally; hydraulic and other presses; press screws; callenders; lathes and tools of all kinds; iron and brass castings of all descriptions.

ROGERS, KETCHUM & GROSVENOR,
a45 Paterson, N. J., or 60 Wall street, N. York.

KEARNEY FIRE BRICK. F. W. BRINLEY, Manufacturer, Perth Amboy, N. J. Guaranteed equal to any, either domestic or foreign. Any shape or size made to order. Terms, 4 mos. from delivery of brick on board. Refer to

James P. Allaire,
Peter Cooper,
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} New York:
J. Triplett & Son, Richmond, Va.
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J. Patton, Jr.
Colwell & Co.
} Philadelphia, Pa.
J. M. L. & W. H. Scovill, Waterbury, Con.
N. E. Screw Co.
Eagle Screw Co.
} Provicence, R. I.
William Parker, Supt. Bost. and Worc. R. R.
New Jersey Malleable Iron Co., Newark, N. J.
Gardiner, Harrison & Co. Newark, N. J.

25,000 to 30,000 made weekly. 35 1y

RAILROAD IRON.—THE SUBSCRIBER'S New Rail Iron Mill at Phœnixville, Pa., is expected to be ready to go into operation by the 1st of September, and will be capable of turning out 30 to 40 tons or finished Rails per day. They are now prepared to receive orders to that extent, deliverable after the 1st of Octobet next, for heavy rails of any pattern now in use, equal in quality and finish to best imported.

PIG IRON.—They are also receiving weekly 150 to 200 tons of No. 1 Phœnix Foundry Iron, well adapted for light castings.

REEVES, BUCK & CO,
45 North Water St., Philadelphia,
or by their Agent, ROBT. NICHOLS,
28tf 79 Water St., New York

A. & G. RALSTON & CO., NO. 4 South Front St., Philadelphia, Pa.

Have now on hand, for sale, Railroad Iron, viz:
180 tons 2½ x ½ inch Flat Punched Rails, 20 ft. long.
25 " 2½ x ½ " Flange Iron Rails.
75 " 1 x ½ " Flat Punched Bars for Drafts in Mines. A full assortment of Railroad Spikes, Boat and Ship Spikes. They are prepared to execute orders for every description of Railroad Iron and Fixtures. 1t

VALUABLE PROPERTY ON THE MILL Dam For Sale. A lot of land on Gravelly Point, so called, on the Mill Dam, in Roxbury, fronting on and east of Parker street, containing 68,497 square feet, with the following buildings thereon standing.

Main brick building, 120 feet long, by 46 ft wide, two stories high. A machine shop, 47x43 feet, with large engine, face, screw, and other lathes, suitable to do any kind of work.

Pattern shop, 35x32 fe. with lathes, work benches,

Work shop, 86x35 feet, on the same floor with the pattern shop.

Forge shop, 118 feet long by 44 feet wide on the ground floor, with two large water wheels, each 16 feet long, 9 ft diameter, with all the gearing, shafts, drums, pulleys, &c., large and small trip hammers, furnaces, forges, rolling mill, with large balance wheel and a large blowing apparatus for the foundry.

Foundry, at end of main brick building, 60x45½ feet two stories high, with a shed part 45½x20 feet, containing a large air furnace, cupola, crane and corn oven.

Store house—a range of buildings for storage, etc., 200 feet long by 20 wide.

Locomotive shop, adjoining main building, fronting on Parker street, 54x25 feet.

Also—A lot of land on the canal, west side o Parker st., containing 6000 feet, with the following buildings thereon standing:

Boiler house 50 feet long by 30 feet wide, two stories.

Blacksmith shop, 49 feet long by 20 feet wide.

For terms, apply to HENRY ANDREWS, 48 State st., or to CURTIS, LEAVENS & CO., 106 State st., Boston, or to A. & G. RALSTON & Co., Philadelphia. ja45

TO RAILROAD COMPANIES AND BUILDERS OF MARINE AND LOCOMOTIVE ENGINES AND BOILERS.

PASCAL IRON WORKS.

WELDED WROUGHT IRON TUBES

From 4 inches to ¼ in calibre and 2 to 12 feet long, capable of sustaining pressure from 400 to 2500 lbs. per square inch, with Stop Cocks, T's, L's, and other fixtures to suit, fitting together, with screw joints, suitable for STEAM, WATER, GAS, and for LOCOMOTIVE and other STEAM BOILER FLUES.

Manufactured and for sale by

MORRIS, TASKER & MORRIS.

Warehouse S. E. Corner of Third & Walnut Streets,

PHILADELPHIA.

TO LOCOMOTIVE AND MARINE ENgine Boiler Builders. Pascal Iron Works, Philadelphia. Welded Wrought Iron Flues, suitable for Locomotives, Marine and other Steam Engine Boilers, from 2 to 5 inches in diameter. Also, Pipes for Gas, Steam and other purposes; extra strong Tube for Hydraulic Presses; Hollow Pistons for Pumps of Steam Engines, etc. Manufactured and for sale by

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Warehouse S. E. corner 3d and Walnut Sts., Philadelphia 1tf

LAP—WELDED

WROUGHT IRON TUBES

FOR

TUBULAR BOILERS,

FROM 1 1-4 TO 6 INCHES DIAMETER,

and

ANY LENGTH, NOT EXCEEDING 17 FEET.

These Tubes are of the same quality and manufacture as those so extensively used in England, Scotland, France and Germany, for Locomotive, Marine and other Steam Engine Boilers.

THOMAS PROSSER,

Patentee.

28 Platt street, New York.

ENGLISH PATENT WIRE ROPES—FOR THE USE OF MINES, RAILWAYS, ETC.—for sale or imported to order by the subscriber.

These Ropes are manufactured on an entirely different principle from any other, and are now almost exclusively used in the collieries and on the railways in Great Britain, where they are considered to be greatly superior to hempen ones, or iron chains, as regards safety, durability and economy. The plan upon which they are made effectually secures them from corrosion in the interior, as well as the exterior of the rope, and gives a greater compactness and elasticity than is found in any other manufacture.

Many of these ropes have been in constant operation in the different mines in England, and on the Blackwall and other inclined planes, for three and four years, and are still in good condition.

They have been applied to almost every purpose for which hempen ropes have been used—mines, heavy cranes, standing rigging, window cords, lightning conductors, signal halyards, tiller ropes, etc. Reference is made to the annexed statement for the relative strength and size. Testimonials from the most eminent engineers in England can be shown as to their efficiency, and any additional information required respecting the different descriptions and application will be given by

ALFRED L. KEMP,

75 Broad street, New York, sole agent in the United States.

Statement of Trial made at the Woolwich Royal Dock Yard, of the Patent Wire Ropes, as compared with Hempen Ropes and Iron Chains of the same strength.—October, 1841.

WIRE ROPES.				HEMPEN ROPES.			CHAINS.		STRENGTH.
Wire gauge number.	Circumference of rope.	Weight per fathom.		Circumference of rope.	Weight per fathom.		Weight per fathom.	Diameter of iron.	Tons.
	INCH.	LBS.	OZ.	INCH.	LBS.	OZ.	LBS.	INCH.	
11	4½	13	5	10	24	–	50	15-16	20
13	3½	8	3	8½	16	–	27	11-16	13½
14	3½	6	11	7½	12	8	17	9-16	10½
15	2½	5	2	6½	9	4	13½	1-2	7½
16	2½	4	3	6	8	8	10½	7-16	7

N.B. The working load, with a perpendicular lift, may be taken at 6 cwt. for every lb. weight per fathom, so that a rope weighing 5 lbs. per fathom would safely lift 3360 lbs., and so on in proportion. 1y24

NICOLL'S PATENT SAFETY SWITCH for Railroad Turnouts. This invention, for some time in successful operation on one of the principal railroads in the country, effectually prevents engines and their trains from running off the track at a switch, left wrong by accident or design.

It acts independently of the main track rails, being laid down, or removed, without cutting or displacing them.

It is never touched by passing trains, except when in use, preventing their running off the track. It is simple in its construction and operation, requiring only two Castings and two Rails; the latter, even if much worn or used, not objectionable.

Working Models of the Safety Switch may be seen at Messrs. Davenport and Bridges, Cambridgeport, Mass., and at the office of the Railroad Journal, New York.

Plans, Specifications, and all information obtained on application to the Subscriber, Inventor, and Patentee

G. A. NICOLLS,

ja45 *Reading, Pa.*

LAWRENCE'S ROSENDALE HYDRAulic Cement. This cement is warranted equal to any manufactured in this country, and has been pronounced superior to Francis' "Roman." Its value for Aqueducts, Locks, Bridges, Flooms and all Masonry exposed to dampness, is well known, as it sets immediately under water, and increases in solidity for years.

For sale in lots to suit purchasers, in tight paper-ed barrels, by JOHN W. LAWRENCE,

142 Front street, New York.

☞ Orders for the above will be received and promptly attended to at this office. 32 1y

GEORGE VAIL & CO., SPEEDWELL IRON Works, Morristown, Morris Co., N. J.—Manufacturers of Railroad Machinery; Wrought Iron Tires, made from the best iron, either hammered or rolled, from 1¼ in. to 2½ in thick.—bored and turned outside if required. Railroad Companies wishing to order, will please give the exact inside diameter, or circumference, to which they wish the Tires made, and they may rely upon being served according to order, and also punctually, as a large quantity of the straight bar is kept constantly on hand.—Crank Axles, made from the best refined iron; Straight Axles, for Outside Connection Engines; Wro't. Iron Engine and Truck Frames; Railroad Jack Screws; Railroad Pumping and Sawing Machines, to be driven by the Locomotive; Stationary Steam Engines; Wro't. Iron work for Steamboats, and Shafting of any size; Grist Mill, Saw Mill and Paper Mill Machinery; Mill Gearing and Mill Wright work of all kinds; Steam Saw Mills of simple and economical construction, and very effective Iron and Brass Castings of all descripions. 1

CALIGRAPHIC BLACK LEAD PENcil, Manufactured by E. Wolff and Son, 23 Church Street, Spitalfields, London.

The Caligraphic Pencils have been invented by E. Wolff and Son, after the expenditure of much time and labor. They are the result of many experments; and every effort that ingenuity and experience could suggest, has been made to insure the highest degree of excellence, and the profession may rely upon their being all that can be desired.

They are perfectly free from grit; and for richness of tone, depth of color, delicacy of tint, and evenness of texture, they are not to be equalled by the best Cumberland Lead that can be obtained at the present time, and are infinitely superior to every other description of Pencil now in use.

The Caligraphic Pencils will also recommend themselves to all who use the Black Lead Pencils as an instrument of professional importance or recreation, by their being little more than half the price of other pencils.

An allowance will be made on every groce purchased by Artists or Teachers.

May be had of all Artists, Colourmen, Stationers, Booksellers, etc.

A single pencil will be forwarded as a sample, upon the receipt of postage stamps to the amount.

Caution.—To prevent imposition, a highly finished and embossed protection wrapper, difficult of imitation, is put around each dozen of Pencils. Each Pencil will be stamped on both sides, "Caligraphic Black Lead, E. Wolff and Son, London."

The subscriber has on hand a full supply of Wolff and Sons celebrated Creta Loevis, or Colored Drawing Chalks, also their pure Cumberland Lead and extra prepared Lead Pencils, and Mathematical Lead Pencils.

P. A. MESIER,

Stationer and Sole Agent,

No. 49 Wall Street.

N. B.—A complete assortment of Steven's *Genuine* Inks, Fluids, Imitating Wood stains, and Graining Colours at the Manufacturers prices. 19tf

ENGINEERS' AND SURVEYERS'

INSTRUMENTS MADE BY

EDMUND DRAPER,

Surviving partner of

STANCLIFFE & DRAPER.

No 23 Pear street, below Walnut,

1y10 near Third, Philadelphia.

PATENT HAMMERED RAILROAD, SHIP and Boat Spikes. The Albany Iron and Nail Works have always on hand, of their own manufacture, a large assortment of Railroad, Ship and Boat Spikes, from 2 to 12 inches in length, and of any form of head. From the excellence of the material always used in their manufacture, and their very general use for railroads and other purposes in this country, the manufacturers have no hesitation in warranting them fully equal to the best spikes in market, both as to quality and appearance. All orders addressed to the subscriber at the works, will be promptly executed. JOHN F. WINSLOW, *Agent.*

Albany Iron and Nail Works, Troy, N. Y.

The above spikes may be had at factory prices, of Erastus Corning & Co., Albany; Hart & Merritt, New York; J. H. Whitney, do.; E. J. Etting, Philadelphia; Wm. E. Coffin & Co. Boston. ja45

PATENT RAILROAD, SHIP AND BOAT Spikes. The Troy Iron and Nail Factory keeps constantly for sale a very extensive assortment of Wrought Spikes and Nails, from 3 to 10 inches, manufactured by the subscriber's Patent Machinery, which after five years' successful operation, and now almost universal use in the United States (as well as England, where the subscriber obtained a patent) are found superior to any ever offered in market.

Railroad companies may be supplied with Spikes having countersink heads suitable to holes in iron rails, to any amount and on short notice. Almost all the railroads now in progress in the United States are fastened with Spikes made at the above named factory—for which purpose they are found invaluable, as their adhesion is more than double any common spikes made by the hammer.

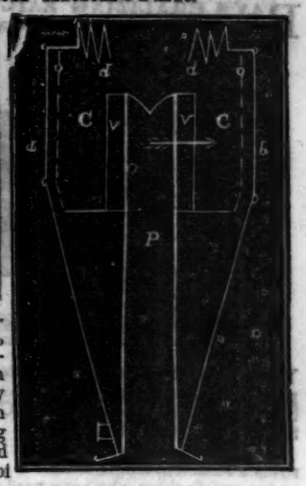
All orders directed to the Agent, Troy, N. York, will be punctually attended to.

HENRY BURDEN, *Agent.*

Spikes are kept for sale, at Factory Prices, by I. & J. Townsend, Albany, and the principal Iron merchants in Albany and Troy; J. I. Brower, 222 Water St., New York; A. M. Jones, Philadelphia; T. Janviers, Baltimore; Degrand & Smith, Boston.

*** Railroad Companies would do well to forward their orders as early as practicable, as the subscriber is desirous of extending the manufcturing so as to keep pace with the daily increasing demand. ja45

FRENCH AND BAIRD'S PATENT SPARK ARRESTER.



TO THOSE INTERESTED IN Railroads, Railroad Directors and Managers are respectfully invited to examine an improved SPARK ARRESTER, recently patented by the undersigned.

Our improved Spark Arresters have been extensively used during the last year on both passenger and freight engines, and have been brought to such a state of perfection that no annoyance from sparks or dust from the chimney of engines on which they are used is experienced.

These Arresters are constructed on an entirely different principle from any heretofore offered to the public. The form is such that a rotary motion is imparted to the heated air, smoke and sparks passing through the chimney, and by the centrifugal force thus acquired by the sparks and dust they are separated from the smoke and steam, and thrown into an outer chamber of the chimney through openings near its top, from whence they fall by their own gravity to the bottom of this chamber; the smoke and steam passing off at the top of the chimney, through a capacious and unobstructed passage, thus arresting the sparks without impairing the power of the engine by diminishing the draught or activity of the fire in the furnace.

These chimneys and arresters are simple, durable and neat in appearance. They are now in use on the following roads, to the managers and other officers of which we are at liberty to refer those who may desire to purchase or obtain further information in regard to their merits:

R. L. Stevens, President Camden and Amboy Railroad Company; Richard Peters, Superintendant Georgia Railroad, Augusta, Ga.; G. A. Nicolls, Superintendant Philadelphia, Reading and Pottsville Railroad, Reading, Pa.; W. E. Morris, President Philadelphia, Germantown and Norristown Railroad Company, Philadelphia; E. B. Dudley, President W. and R. Railroad Company, Wilmington, N. C.; Col. James Gadsden, President S. C. and C. Railroad Company, Charleston, S. C.; W. C. Walker, Agent Vicksburgh and Jackson Railroad, Vicksburgh, Miss.; R. S. Van Rensselaer, Engineer and Sup't Hartford and New Haven Railroad; W. R. M'Kee, Sup't Lexington and Ohio Railroad, Lexington, Ky.; T. L. Smith, Sup't New Jersey Railroad Trans. Co.; J. Elliott, Sup't Motive Power Philadelphia and Wilmington Railroad, Wilmington, Del.; J. O. Sterns, Sup't Elizabethtown and Somerville Railroad; R. R. Cuyler, President Central Railroad Company, Savannah, Ga.; J. D. Gray, Sup't Macon Railroad, Macon, Ga.; J. H. Cleveland, Sup't Southern Railroad, Monroe, Mich.; M. F. Chittenden, Sup't M. P. Central Railroad, Detroit, Mich.; G. B. Fisk, President Long Island Railroad, Brooklyn.

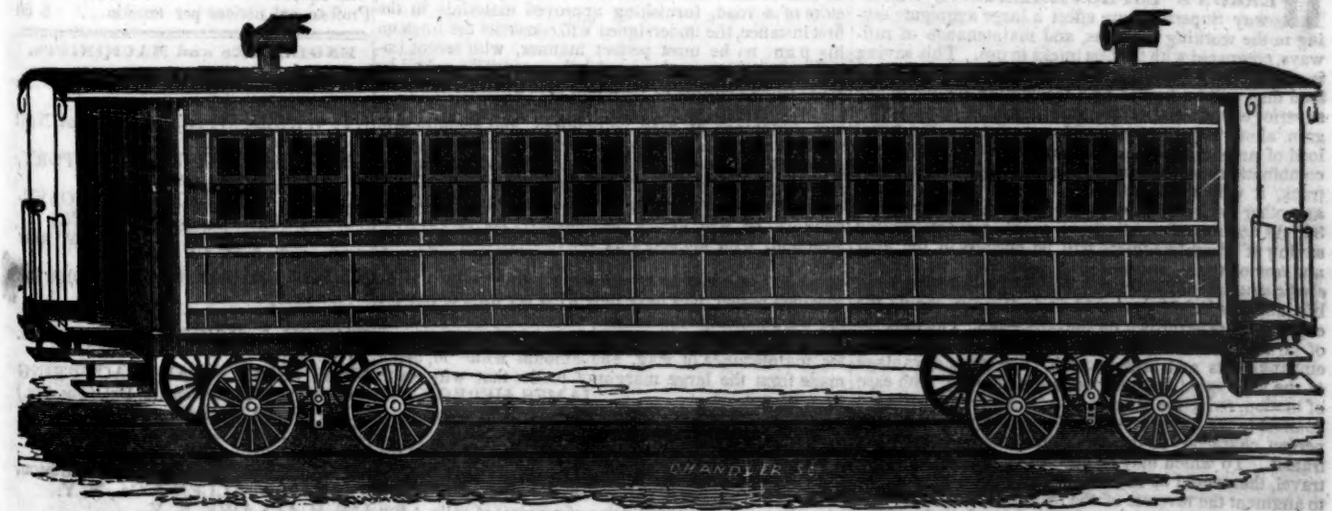
Orders for these Chimneys and Arresters, addressed to the subscribers, care Messrs. Baldwin & Whitney, of this city or to Hinckly & Drury, Boston, will be promptly executed. FRENCH & BAIRD.

N. B.—The subscribers will dispose of single rights, or rights for one or more States, on reasonable terms. *Philadelphia, Pa., April* 6, 1844.

*** The letters in the figures refer to the article given in the *Journal* of June, 1844. ja45

BENTLEY'S PATENT TUBULAR STEAM BOILER. The above named Boiler is similar in principle to the Locomotive boilers in use on our Railroads. This particular method was invented by Charles W. Bentley, of Baltimore, Md., who has obtained a patent for the same from the Patent Office of the United States, under date of September 1st, 1843—and they are now already in successful operation in several of our larger Hotels and Public Institutions, Colleges, Alms Houses, Hospitals and Prisons, for cooking, washing, etc.; for Bath houses, Hatters, Silk, Cotton and Woollen Dyers, Morocco dressers, Soap boilers, Tallow chandlers, Pork butchers, Glue makers, Sugar refiners, Farmers, Distillers, Cotton and Woollen mills, Warming Buildings, and for Propelling Power, etc., etc.; and thus far have given the most entire satisfaction, may be had of D. K. MINOR, 23 Chambers st. New York.

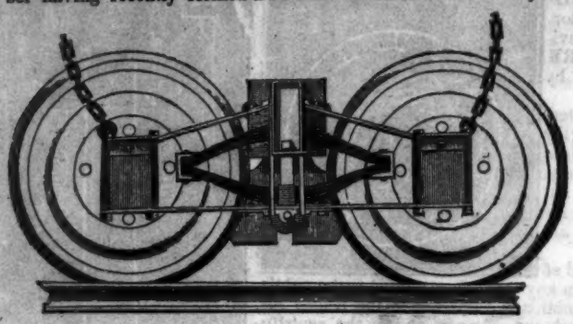
DAVENPORT & BRIDGES' CAR WORKS.



DAVENPORT & BRIDGES CONTINUE TO MANUFACTURE TO ORDER, AT THEIR WORKS, IN CAMBRIDGEPORT, MASS. Passenger and Freight Cars of every description, and of the most improved pattern. They also furnish Snow Ploughs and Chilled Wheels of any pattern and size. Forged Axles, Springs, Boxes and Bolts for Cars at the lowest prices. All orders punctually executed and forwarded to any part of the country

Our Works are within fifteen minutes ride from State street, Boston—coaches pass every fifteen minues. 1y1

RAY'S EQALIZING RAILWAY TRUCK.—THE SUBSCRIber having recently formed a business connection in the City of New



York, expressly for the manufacture of the newly patented and highly approved Railroad Truck of Mr. Fowler M. Ray, is ready to receive orders for building the same, from Railroad Companies and Car Builders in the United States, and elsewhere.

The above Truck has now been in use from one to two years on several roads a sufficient length of time to test its durability, and other good qualities, and to satisfy those who have used it, as may be seen by reference to the certificates which follow this notice.

There have been several improvements lately introduced upon the Truck, such as additional springs in the bolster of passenger cars, making them delightful riding cars—adapting it to tenders, trucks forward of the locomotive, and freight cars, which, with its original good qualities, make it in all respects the most desirable truck now offered to the public.

Orders for the above, will, for the present, be executed at the New York Screw Mill, corner 33d street and 3d avenue, (late P. Cooper's rolling mills) and at the Steam Engine Shop of T. F. Secor & Co., foot of 9th street, East river, (of which firm the subscriber was late a partner) under the immediate supervision of Mr. Ray himself.

Several sets of trucks containing the latest improvements have recently been turned out for the New York and Erie railroad, and the New Jersey Transportation company, which may be seen upon said roads.

The patronage of Railroad Companies and Car Builders is respectfully solicited.

New York, May 4, 1846. W. H. CALKINS, and Others.

To all whom it may concern:—This is to certify that the New Haven, Hartford and Springfield railroad co., have had in use six sets of F. M. Ray's patent trucks for the last 20 months, during which time it appears to me, they have proved to be the bes and most economical truck now in use.

[Signed,] WILLIAM ROE, Sup't of Power.

I certify that F. M. Ray's Patent Equalizing Railroad Truck has been in use on the Philadelphia and Reading railroad for some time past, under a passenger car.

For simplicity of construction, economy in cost, lightness of material, and extreme ease of motion, I consider it the best truck we have ever used. Its peculiar make also renders it less liable to be thrown off the track, when passing over any obstruction. We intend using it extensively under the passenger and freight cars of the above road.

Reading, Pa., October 6, 1845. [Signed,] G. A. NICOLL,
Sup,t Transportation, etc., Philadelphia and Reading Railroad.

To all whom it may concern:—This is to certify that the N. Jersey Railroad and Transportation company have used Fowler M. Ray's Truck for the last seven months, during which time it has operated to our entire satisfaction. I have no hesitation in saying that it is the simplest and most economical truck now in use. [Signed,] T. L. SMITH,

Jersey City, November 4, 1845. N. Jersey Railroad and Transp. Co.

This is to certify that F. M. Ray's Patent Equalizing Railroad Truck has been in use on the Long Island railroad for the last year, under a freight car.

For simplicity of construction, economy in cost, lightness of material and ease of motion, I consider it equal to any truck we have in use.

Long Island Railroad Depot, Jamaica November 12, 1845. } [Signed,] JOHN LEACH, Sup't Motive Power.

1y19

HERRON'S PATENT AMERICAN RAILWAY TRACK,

As seen stripped of the top ballasting

HERRON'S IMPROVEMENTS IN RAILway Superstructure effect a large aggregate saving in the working expenses, and maintenance of railways, compared with the best tracks in use. This saving is effected—1st, Directly by the amount of the increased load that will be hauled by a locomotive, owing to the superior evenness of surface, of line and of joint. This gain alone may amount to 20 per cent. on the usual load of an engine.—2d, In consequence of the thorough combination, bracing, and large bearing surface of this track, it will be maintained in a better condition than any other track in use, at about one-third the expense.—3d, As action and reaction are equal, a corresponding saving of about two-thirds will be effected in the *wear* and *tear* of the *engines* and *cars*, by the *even surface* and *elastic structure* of the track.—4th, The great security to life, and less liability to accident or damage, should the engine or cars be thrown off the rails.—5th, The absence of jar and vibration, that shake down retaining walls, embankments and bridges.—6th, The great advantage of the high speed that may be safely attained, with ease of motion, reduction of noise, and consequently increased comfort to the traveller.—7th, The really *permanent* and perfect character of the Way, insuring regularity of transit. To which may be added the great increase of travel, that would be induced by the foregoing qualities to augment the revenue of the railroad.

The cost of the Patent track will depend on the quantity and cost of iron and other materials; but it will not exceed, even including the preservation of the timber, the average cost of the tracks on our principal railroads. Generally, the timber structure, fastenings and workmanship, exclusive of the cost of the iron rails, will be from $2,300 to $4,000 per mile. On this structure, rails of from 40 to 50 lbs. per yard, will be equal in effect to 60 and 70 lbs. rails laid in the usual way. The proprietors of a road, furnishing approved materials in the first instance, the undersigned will construct the track on his plan in the most perfect manner, with recent improvements, for one thonsand dollars per mile. And he will farther contract to maintain said track for the period of ten years, furnishing such preserved timber and iron fastenings as may be required, and keeping said track in *perfect adjustment*, under any trade not exceeding 100,000 tons per annum, or its equivalent in passenger transportrtion, for *Two hundred dollars per mile per annum.** To insure the faithful performance of this contract, he will pledge one-fourth of the cost of construction, with the accruing interest thereon, regularly vested, until the completion of the contract. So that a company, by securing payment to the undersigned at the specified period, will have only $750 per mile to pay for the workmanship on the track, without any charge being made for the use of the patent, the subsequent payments, for maintenance of way, and amount withheld, being made from the large margin of profits that will result from its use.

JAMES HERRON.
Civil Engineer and Patentee.
No. 277 *South Tenth St., Philadelphia.*

* A general average of the repairs done on six of the most successful railroads in this country, for a period of from six to eight years' use has been found to exceed $625 per mile per annum, exclusive of renewal of rails. But few roads in this country carry as much as 100,000 tons per annum. When a road exceeds that quantity, the repairs due to the additional tonnage, up to 200,000 tons, will be charged at one mill per ton; over the latter, and not exceeding 300,000 tons, nine-tenths of a mill, etc. Where there are two tracks to maintain, a large reduction upon those rates will be made. 1y1

THE AMERICAN RAILROAD JOURNAL is the only periodical having a general circulation throughout the Union, in which all matters connected with public works can be brought to the notice of all persons in any way interested in these undertakings. Hence it offers peculiar advantages for advertising times of departure, rates of fare and freight, improvements in machinery, materials, as iron, timber, stone, cement, etc. It is also the best medium for advertising contracts, and placing the merits of new undertakings fairly before the public.

RATES OF ADVERTISING.

One page per annum	$125 00
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ENGINEERS and MACHINISTS.

THOMAS PROSSER, 28 Platt St. N.Y. (*See Adv.*)
J. F. WINSLOW, Albany Iron and Nail Works, Troy, N. Y. (*See Adv.*)
TROY IRON AND NAIL FACTORY, H. Burden, Agent. (*See Adv.*)
ROGERS, KETCHUM AND GROSVENOR, Patterson, N. J. (*See Adv.*)
S. VAIL, Speedwell Iron Works, near Morristown, N. J. (*See Adv.*)
NORRIS, BROTHERS, Philadelphia Pa. (*See adv.*)
KITE'S Patent Safety Beam. (*See Adv.*)
FRENCH & BAIRD, Philadelphia, Pa. (*See Adv.*)
NEWCASTLE MANUFACTURING COMPANY, Newcastle, Del. (*See Adv.*)
ROSS WINANS, Baltimore, Md.
CYRUS ALGER & Co., South Boston Iron Company.
SETH ADAMS, Engineer, South Boston.
STILLMAN, ALLEN & Co., N. Y.
JAS. P. ALLAIRE, N. Y.
PHŒNIX FOUNDRY, N. Y.
ANDREW MENEELY, West Troy.
JOHN F. STARR, Philadelphia, Pa.
MERRICK & TOWNE, do.
HINCKLEY & DRURY, Boston.
C. C. ALGER, Stockbridge Iron Works, Stockbridge, Mass.